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THE DIAGNOSIS OF OBSTRUCTION OF THE ESOPHAGUS*

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Obstruction of the esophagus is comparatively rare, but by no means so rare as often seems thought. In the medical clinic of the University Hospital, in the last 17 years, the condition has been noted 32 times, among about 5,000 medical cases. This does not include all cases coming to the hospital, since many cases of spastic obstruction were treated in the neurologic clinic, and some organic cases in the surgical clinic, and others in the throat clinic. Sixteen were cases of cancer of the esophagus, 7 cancer of the stomach and cardiac end, 6 spastic, 1 traumatic, 1 caustic, 1 from diverticulum.

In the majority of cases of esophageal obstruction the therapeutic outlook is bad. This doubtless discourages accurate diagnosis; yet it should not, for, although direct treatment is at present almost helpless in these cases, many even now could be helped by an early operation, and, with improvements in operative technic, such as are sure to come, many more.

In most cases a diagnosis of esophageal obstruction could be made much earlier than now happens. The subjective symptoms are very suggestive as a rule that has few exceptions, but failure to note them and emphasis upon accidental phenomena, with neglect of instrumental diagnosis, often lead the practitioner astray. Tuberculosis of the lungs, cancer of the stomach, and gastric catarrh are the commonest erroneous diagnoses. In the later stages, when emaciation and cachexia are marked, such diagnosis would occur to any one at first glance, but if the history of the disease is taken skilfully, without forcing the patient's attention from the real facts, the more accurate line of investigation can hardly be overlooked.

In nervous cases there may be many unessential details, in cases of stricture from caustic the early history may have been forgotten, in cases of cancerous obstruction there is not rarely a history of previous stomach symptoms, suggesting gastritis, ulcer or even cancer. But among all the numerous and varied symptoms we rarely fail to get a definite complaint of difficulty of swallowing. This varies in its details, but in the most important cases we have a story of difficulty at first with solid food, especially in unusually large pieces—a bite of apple or meat swallowed hastily, and

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with a pain in the epigastrium such as happens when healthy people commit such an imprudence. Sometimes it is a hot bite or swallow that calls attention to the trouble, sometimes several hasty swallows in succession. In cases of actual obstruction this history is soon repeated, becomes frequent, more distinct, and is no longer limited to the passage of large pieces of solid food. Obstructoin to very soft or liquid food may come on rapidly in organic cases, and in spastic cases may from the first be more marked than difficulty with solid food. Along with the difficulty in swallowing we often get a clear description of a sensation of fulness in the course of the esophagus.

Soon after the dysphagia a history of regurgitation of food begins. In some cases—5 out of 16 of my cancer cases—it may be the first thing noted by the patient. It is often neglected in diagnosis because not accurately described by the patient, who often speaks of it as vomiting. Careful questioning will bring out the facts—the regurgitation rather than true vomiting, the little or no alteration of the food. In one of my cases of cancer of the middle of the esophagus, there was forcible vomiting. The time after taking food varies from a few minutes to an hour or more, but is usually not more than 10 or 15 minutes. In general, the food is unaltered, and has no acid or bitter taste, but there are exceptions. In cases of severe obstruction, with ulceration, blood and mucus, and in cases with dilatation above the obstruction sometimes large quantities of mucus are regurgitated.

Either of these two symptoms, obstruction and regurgitation, and especially both together, should lead to an instrumental examination. The latter, however, will usually not be made until the history has been taken in full, and the general examination made. The latter will in rare cases disclose the cause of the obstuction—e. g., a goitre or other tumor in the neck pressing upon the esophagus, a lordosis, mediastinal tumor, aneurysmal or solid, or a pericardial effusion, a congenital stricture, a traumatic or caustic process or a neurotic history suggesting but not proving the obstruction to be spastic.

The etiologic factors are rarely important and one should not be led astray by them, for they are often useless unless they are direct, as swallowing of caustic or acid. How erroneous conclusions may be was shown by the history of a patient kindly referred to my clinic for examination by Dr. Canfield. The man had swallowed his false teeth four years before and complained of partial obstruction. The probe located an obstruction about 25 cm. Many physicians had examined the patient, but did not believe the teeth were still there, and did not examine to see. They showed plainly in the röntgenogram and Dr. Canfield dislodged them.

The instrumental diagnosis is the essential. Before making it we endeavor to exclude processes, like aneurysm, that might be injured by sounding. In regard to this it should be borne in mind that the most dangerous aneurysms, in this connection, are often impossible to recognize, and on the other hand, one may often pass tubes or probes in patients with known aneurysm without serious consequences.

Although I have never had an accident in the exploration of the esophagus, I never begin it without pointing out that the operation is made necessary by the important symptoms already disclosed.

Probably all prefer to begin the examination with the passage of a soft stomach tube. It is free from danger, and often reveals things that could not be learned by the passage of a sound, such as the existence of retention, decomposition or ulceration at or above the ob-

struction. Occasionally (2 of my cancer cases) we can obtain by the tube collections of atypical cells or even tumor bits (1 case), that enable us to confirm the diagnosis of cancer. As in all cases, the tube should be passed carefully by the operator and not swallowed and the patient should be made to breathe quietly, and not retch. Any one who is in the habit of passing the soft tube can usually distinguish an abnormal obstruction from the post-cricoid narrowing. The latter can be avoided largely by keeping the patient's head forward while passing the tube. The other normal constrictions, as at the arch of the aorta and the diaphragm, rarely cause serious difficulty with the soft tube.

If an obstruction is met, gentle pressure should be exerted to see if it can not be overcome and the patient should be made to swallow. If not, aspiration and siphonage should be used to show the existence and nature of any collection above the obstruction. The distance from the upper teeth should then be marked and noted. In my 16 cases the distance was: 15 cm. in 1; 26-30 in 4; 30-36 in 3; 36-40 in 6; over 40 in 2.

The soft tube in most cases gives all the information we need, but sometimes it fails. Thus it may pass an obstruction of a very important kind, so as to make the operator think no obstruction present, or that the obstruction is purely spastic. I shall mention an example of this kind later, but cite now a case in which there was chronic obstruction with signs suggesting carcinoma. One day the surgeon treating the patient found the tube passed without difficulty, and this continued in the short time preceding a gastrostomy already planned. Death from accident quickly followed the operation, and it then appeared a false passage had formed or been formed in the necrotic mass of cancer.

A remarkable case that I can not explain furnished the specimen I show. A man of 35, with a history suggesting gastric ulcer for 5 years, had two attacks of vomiting of blood a year before admission to the hospital. He then became comparatively well and remained so until after an attack of "influenza" six months before admission. He then found he was unable to swallow. Food would stay in the esophagus for five or ten minutes, when it would come up, followed by a raising of mucus for 15 minutes. In 3 months he lost 15 pounds. He was then treated in a hospital in a large city for a month, lost 10 pounds more, but was discharged with a letter from his physician, a professor of medicine, stating the patient had had a stricture of the upper end of the esophagus, and had been cured of it, but still had catarrh of the stomach. On admission to the University Hospital the patient weighed only 77 pounds, instead of his normal 120, a loss of 18 pounds in the preceding two weeks. He was extremely weak and cachectic. A soft tube could be passed only 42 cm., the bougie met a firm obstruction at 39 cm. Owing to his condition no further effort was made to explore the esophagus. Rectal feeding was kept up, with albumin water by the mouth, but the patient died five days after admission, and was then found to have the cancer shown in the specimen, in the lesser curvature, growing up into the esophagus.

In passing the bougie it is important to use the largest tips at first, and I might add that the shaft must be long enough to reach the farthest cardiac orifice. I have seen a 42 cm. tube fail to reveal a cardiac obstruction easily demonstrated by a longer one. In using the probe it is not enough to find the obstruction and measure its distance—usually one to three cm. less than that shown by the soft tube. One should also endeavor to learn the lumen and length of the narrowing, as well as the existence of spasm in addition to other

and more permanent causes of obstruction. This is done by careful exploration with smaller tips, one after the other. It is an important fact that in many cases of cancerous, and even cicatricial, as well as inflammatory obstruction, associated spasm is the cause of the most serious obstruction. If this can be lessened by change in manner of feeding, much good can often be accomplished, and in order to make the change, a demonstration of the spasmodic element is essential.

With the exploration by the tube and probe the existence and seat of an obstruction can be learned.

The next thing is to discover the cause. As said before, the history will often clear this up, or the complete examination. The spastic cases usually have unmistakable hysterical manifestations, with histories of trauma (insignificant as a rue), emotional shock, or other assisting cause. In cancer the cachexia and emaciation are only too obvious in most cases when they first appear, but if we are to make a fruitful diagnosis, we must do so before cachexia. Sex and age are also factors. Males are much more often affected than females. Ten of my 16 cases were between 51 and 70, 3 before 40, 3 between 40 and 50. Slight reduction of blood coloring matter is the rule, but the reduction is seldom excessive. In three cases the hemoglobin was 90, 95, 98, with reds 5 million, 4,700,000 and 4,960,000 respectively. In the first case the patient died a month after the examination. In other cases there was marked secondary anemia—low color index, and often with leucocytosis—10,000 to 18,000. The majority of cases have only moderate secondary anemia—60-80 per cent. blood color, with relatively high red count.

But while all these facts assist in giving a clear picture of the patient's condition, there is another aid to exact diagnosis that should be utilized whenever possible. I refer to esophagoscopy. With Kilian's tubes this is now a valuable and fairly simple matter, though one that can best be carried out by experts. For the last four years I have had the advantage of the skill of my colleague Dr. R. B. Canfield, in the direct examination of esophageal obstructions. In most cases, as might be expected in hospital practice, the examination could only confirm what has been disclosed by older methods. The following case shows how valuable the method may be:

F. C. J., aged 38, had dysphagia, occasional regurgitation, pain in the epigastrium, and lost 20 lbs. in the last 9 months. The patient pointed to the upper end of the sternum and the ensiform as the points where food seemed to stop. He passed a tube himself without apparent difficulty, but when passed by another the tube was stopped at the lower end of the esophagus. Two test breakfasts, removed in 30 minutes, showed low HCl and low peptic power without other abnormalities. Another test breakfast could not be recovered in 45 minutes and the same was true of a full meal in 4½ hours. The fasting stomach was negative. With care in eating the patient was able to take his food. From his manner and the behavior of the esophagus to the tube it was thought by some the case was spastic and neurotic only. On three different occasions, however, with the olive probe, I failed to get through an obstruction at 43 cm. This pointed strongly, of course, to organic stricture. Dr. Canfield kindly examined the patient and though the tube could be passed into the stomach, there was at the cardiac end an obstruction that could be seen as well as felt. The tissue did not appear to be altered, but Dr. Canfield excised a small piece. Examination by Dr. Warthin showed squamous celled cancer.

In such a case operation is, of course,

urgently indicated, but the patient would not consent. The diagnostic importance of the observation needs no argument.

The importance of the esophagoscope is also great in the rare but important cases of polyp, and indispensable in cases of foreign body. In the case of the patient with impacted teeth, mentioned above, the rœntgenograph was also of value, as it is in the elucidation of dilatations above strictures as well as of the so-called idiopathic dilatation.

In the differential diagnosis of esophageal obstruction it is a good plan, as suggested by von Leube, to consider cancer last of all. We think of it first in such cases, because from 90 to 95 per cent. are of that kind, but in practice all other causes should first be considered and excluded, either by examination or by careful observation under treatment. In almost all organic cases, including of course cancer, there is nearly always an important element of spasm due to irritation from improper feeding. This can often be checked by care in the selection and swallowing of the food. The patient may gain weight and remain free from severe symptoms many months. One of my cancer cases gained 15 lbs. and was free from symptoms of note for 6 months when cachexia again began to progress. The time of relative relief is the important time for exact diagnosis. A case in the hospital shows the harm that may follow a hasty diagnosis. A man of 54 had symptoms of gradually increasing stenosis of the esophagus. A diagnosis of cancer was made. After eight years, during which he was able to get along fairly well by care in eating, I examined him and found an obstruction at 18 to 20 cm., due, I thought to a diverticulum, a suspicion confirmed by Dr. Canfield. An earlier diagnosis would undoubtedly have been helpful in preventing the enlargement of the diverticulum as well as in avoiding mental worry.

Purely spastic obstructions are important to recognize early, on account of the emaciation, as well as the danger of dilatation above the obstruction in cases not treated. As an example of this, illustrating the ease with which spastic obstruction can come and go in predisposed cases, I cite the case of a man who came to the hospital slowly starving from obstruction of the upper end of the esophagus. The man had been injured in a railroad accident and his shoulder was kept in a plaster cast for several months and then the cast removed without further care of the joint. From a chance remark of one of the neurologists in charge the patient got his obstruction, which disappeared at once on the passing of a soft stomach tube.

The recognition of dilatations and diverticula, and of secondary changes following obstruction, need not be considered at this time, though their investigation is part of the diagnosis in each case.

In cases of suspected fracture of the skull, percussion-auscultation will be found a valuable procedure where all the other signs and symptoms have been negative. The procedure is the following: The forehead is repeatedly tapped sharply in the median line with the middle finger, the stethoscope being moved from one point to another from before backward. If a fracture be present, a cracked-pot sound is elicited just beyond it. The corresponding part of the head on the other side should be auscultated to eliminate possible error. —*Am. Jour. Surg.*

ACUTE PERITONITIS*

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In the short time allotted I shall not endeavor to do more than call to your attention a few important facts relative to this great subject.

The peritoneum contains about the same number of square inches of surface as does the skin. Whether it contains stomata, which form entrances to the lymphatics, as the work of Recklinghausen and others would indicate, or whether the peritoneum is an unbroken layer of cells, as MacCallum and others assert, one fact is undebatable, that its power of absorption is great and by some course even organized elements, as bacteria, do pass into the lymphatics and are carried to distant organs in a short time. The power of absorption is greatest in the region of the diaphragm and least in the pelvis; therefore in the closed abdomen the lymph-currents are toward the diaphragm. As the lymph-circulation in any muscular structure is greatly quickened by its repeated contraction, so here the alternate compression and release of the rich supply of lymph-radicles serves the purpose of a pump in carrying away the fluids brought to it by capillaries or peritoneum. For much the same reason the peristaltic and other contractions of the bowel favor rapid absorption. Traumatism of the peritoneal surface also allows a freer access of the contents of the cavity to the lymph-radicles, rendering the individual more susceptible to a true septicemia.

Normal peritoneal fluid has been demonstrated to have bactericidal properties. It has also been shown experimentally that bacteria, placed in the peritoneal cavity decrease during the first two hours, then rapidly increase for the next three or four hours, and that from this time on there is again a gradual decrease. Murphy, in the light of these facts, remarks that they are of great practical significance, since it appears that "if we can tide the patient over the initial lethal dose [of toxins], the resistance is so enormously increased that recovery is the rule."

Dudgeon and Sargent call attention to the fact that after injections of organisms into the peritoneal cavity, the fluid may be found sterile, while the surface of the intestines and omentum and sometimes the diaphragm still hold bacteria suspended in a coating of fibrin.

While infection of the peritoneum may arise through the circulation, being brought from more or less remote foci of suppuration, the common cause of peritonitis is *perforation,* which may itself be the sequel of appendicitis, cholecystitis, gastric or duodenal ulcer, typhoid fever, or traumatism, as stab or gunshot wounds; or an abscess of the liver or other organ may burst and the leakage directly infect the peritoneum. The direct cause of death is the toxemia resulting from the absorption of poisons produced within the peritoneum or a secondary septicemia, with a general dissemination of the pathogenic organisms. The prognosis depends largely upon the nature and the virulence of the infection. Dudgeon and Sargent say of the staphylococcus albus: "It acts not only

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by promoting a local immunity but it causes sufficient reaction to produce agglutinations and adhesions which tend to limit infection. It appears first and disappears last in all abdominal infections of intestinal origin." * * * 'If phagocytes and staphylococci are abundant in a region remote from the focus of infection, the prognosis is good; if bacilli are present with the phagocytes and staphylococci, the prognosis is grave but not hopeless; if there are a few phagocytes, few staphylococci, and many bacilli or streptococci, the prognosis is grave." The prognosis is affected also by the location of the perforation; the colon bacillus has been shown to be most virulent in the ileum under normal conditions. That the condition of the bowel is an important factor there can be no doubt. In diarrheas and especially in strangulation or obstruction the virulence of the colon bacillus must rise rapidly. The principle of the artificial method of raising the virulence of bacteria, the so-called "collodion-sac method" is illustrated in some of the conditions preceding perforation. With a good, active circulation and the toxins being filtered away but with the phagocytes at a disadvantage, the microorganisms gain so rapidly in virulence that when any are spilled the case may be almost hopeless under the best conditions that treatment can afford. It is doubtless true that the same organism growing under varying conditions may be practically harmless or most deadly, depending upon its previous environment. It is claimed that certain of the colon group are capable of becoming the most virulent of the organisms with which we have to deal in peritonitis; the bacillus pyocyaneus is another of those infections in which confinement within narrow bounds raises the virulence in the manner above mentioned. Dudgeon and Sargent believed that it would almost never be found in combination with the colon bacillus under such condtiions, but it has been my experience to find this combination both in the unruptured appendix and in the extensive acute peritonitis following appendiceal perforation.

That there is some relation between the virulence of an infection and the power of the peritoneum to protect itself by the formation of a fibrinous exudate is a matter of common observation in the surgical treatment of these cases. It has been supposed that the property of preventing a favoring "wall" from being formed was peculiar to the streptococcus pyogenes, but it would appear to be a sign of high virulence in a variety of infections which by their products break down the defensive barriers, the phagocytes and fibrin formation, before the preliminary reaction is established. This preventing of the formation of a fibrinous exudate is a most deadly quality, since the danger from absorption of bacterial products is greatly increased.

Where the infection is sub-peritoneal, as in puerperal sepsis, the streptococcus is particularly dangerous. It rapidly passes into the general circulation. I will not, however, consider this form of peritonitis; nor is it my purpose to take up those forms depending upon infection with the gonococcus or the tubercle bacillus.

I have chosen to classify those cases as acute general peritonitis in which the coils of intestine are bathed in pus and there have been formed no temporary adhesions and defensive exudate to limit the spread of infection. If in our definition we insist upon the presence of an active inflammatory involvement of all parts of the peritoneum, we shall have no recoveries to record, as we can make positive diagnosis only post mortem. Upon the operating-table we cannot often determine the extent of peritoneal involvement.

In one class of cases, the toxemia is great, and little if any plastic exudate is manifest. The peritoneum loses its lustre, its vessels become dilated, and the microörganisms and their products rapidly find their way into the lymph-channels. There is another class of these inflammations in which the serum and leucocytes are poured so abundantly through the vessel-walls as apparently to neutralize, in a measure, the effect of the products absorbed until a confining wall is built about the area involved. This class of cases, that is, those in which the pus was more or less definitely confined by a plastic exudate, I have excluded from the reports given below, which are all of the generalized type.

Cases of "general peritonitis"—using the term in the qualified sense indicated above—are so common that I will say little of the symptoms. In the most common, or perforative, variety, there is severe pain and it may be with chilly sensations or even rigor at the onset. There is generally nausea; in some cases, vomiting; tenderness, the area of which gradually increases. The pulse is rapid, small and hard. The abdominal muscles are tense, the patient lying with knees drawn up. The temperature may or may not be elevated, the tongue dry and coated. Tympanites may be extreme or the abdomen may be flat and board-like to palpation.

Success in treatment depends upon early diagnosis. If we wait for the development of the classic signs and symptoms, as above outlined, we shall likely lose the patient. In many cases it is dangerous to wait for elevation of temperature or rapidity of pulse. The diagnosis of the conditions which cause peritonitis will make possible the saving of nearly all our patients; at least such diagnosis must be reached while the peritonitis is still local. Every case of appendicitis, for instance, should be diagnosed and where facilities are at hand operation performed upon the first day. A carefully studied history is of the utmost importance. The degree and the character of the leucocytosis are of great confirmatory value in determining our course, as well as of decided assistance in prognosis.

From our point of view, at the time when we first see the patient, it is of little moment whether the peritonitis is to remain localized or to become general. From every surgical consideration, the operation should be performed as soon as the diagnosis has been made, unless the patient is moribund or markedly improving.

There may, in some cases, be difficulty in differentiating between mechanical obstruction of the intestine and that caused by peritonitis. In such cases, the history is of importance and the estimation and study of the leucocytes are helpful. Where the obstruction is due to peritonitis, peristalsis will have ceased, borborygmus will be absent, and at some stage of the peritonitis temperature will have been elevated.

A ruptured ectopic gestation has been mistaken for perforative peritonitis. Here also the history is of great assistance; in the former, there is usually history of previous pelvic inflammation, of sterility for several years, of delayed menstruation, of irregular flowing, accompanied, it may be, by signs and symptoms of pregnancy. The indication in either case, however, is operative and the surgeon should be called to share the responsibility. The presence of ovarian or other tumor with twisted pedicle may simulate peritonitis. Such tumor can usually be palpated and is movable. The leucocyte count would likewise here be valuable. Entero-colitis and kinking of the ureter should be easily differentiated. Pneumonia, in children, at times simulates peritonitis. Acute pancreatitis, although rare, must

be considered in some cases.

In perforative peritonitis, while the cause of death is the absorption of septic products, the course is shortened by intestinal paresis, by obstruction due to old adhesions, or by extension of the infective process to a true septicemia or pyemia. In treatment, then, the first consideration is to prevent absorption. The patient should be at once placed in the Fowler position, at his home, during transportation, and at the hospital. Peristalsis must be limited by withholding food and drink, as first emphasized by Ochsner and now very generally recognized as important. If the patient is vomiting, the stomach should be irrigated. For the anesthetic, I prefer ether. In one apparently desperate case of peritonitis following typhoid perforation, nitrous oxide was first administered; the effect was alarming; ether was substituted, with happy results, its stimulating effect being at once apparent.

As before indicated, I operate as soon as the diagnosis is made unless the patient is moribund or unless he is so decidedly improving as to give promise of greater safety at an interval operation. During the past year, I have not refused operation to a single patient, by reason of the desperateness of the case. From the 1st of June, 1907, to the 1st of June, 1908, my records show 22 cases, with two deaths. Both of the fatal cases had advanced to the stage of capillary cyanosis before I saw the patients. Proper treatment had not been instituted until apparently the whole peritoneum had become involved, pus was everywhere in the cavity, and agglutination of the intestines prevented drainage. Both died of toxemia.

Cultures were made from the pus in twelve of these cases with the result that in six the colon bacillus was found alone, in two it was associated with the staphylococcus albus, in two it appeared with the staphylococcus aureus, and in two only was a streptococcus found.

I make an incision near the point of perforation, if possible through the right rectus muscle, since this admits of an extension of the incision upward or downward without transverse division of its muscle fibres. Where possible, I close the perforation itself; this was accomplished in all the cases herewith reported with one exception.

I never irrigate the abdominal cavity. I never wipe the peritoneal surfaces. In the case of typhoid perforation, I removed the feces from the pelvis by means of moist gauze. Rapidity of operation is important; irrigation consumes time, distributes infection, causes traumatism, and breaks down the protective barriers set up by nature. There is no perfectly normal saline fluid and water in any other form is foreign to cavities and vessels lined with endothelium.

Much has of late been written in favor of the effort to dispense with drainage. I believe in drainage. Continuous relief of tension retards absorption. I pass split rubber-tubing to the dependent pockets, and inside of each of these tubes I place a wick of gauze the more rapidly to drain away products of bacterial growth held in solution. This wick is removed within twenty-four hours. If the peritonitis has developed only shortly before operation, I assume that the active inflammatory process is localized; that beyond the immediate area of perforation the bactericidal properties of the peritoneal fluid and the other agencies of defense may be sufficient to care for the infection, provided the latter is not being reinforced from its primary source. Accordingly, I lay a cofferdam of gauze about the area of the original site of perforation; and this gauze is allowed to remain in place for six or eight days, when the cellular elements and fibrin that have accumulated within its meshes liquefy and it can then be re-

moved easily without opening new avenues of infection. In certain cases, where it is not necessary to lay this cofferdam, it is desirable to bring the tube-drains out through stab-wounds and to close completely the working incision.

The patient is then placed in the Fowler position and normal saline solution is given continuously by rectum by Murphy's "seeping" method. Unless given properly the fluid will not be retained. The rectal nozzle should have several holes about its end; it should be bent about three inches from its tip to adapt its use to the Fowler position. It can be held in position by means of a strip of adhesive plaster if necessary. The fountain should be hung not more than six to ten inches above the level of the anus, just high enough to overcome the intra-abdominal pressure, so that the fluid will be absorbed as rapidly as it enters the bowel. The pressure of the column of water is in the same way kept low enough to permit the easy passage of gas out through the fountain against the continuous inward current of fluid. Fluid introduced by this method, entering directly to the portal circulation by channels the normal function of which is absorption, is more immediately available than when introduced subcutaneously and its administration can be continued almost indefinitely. The fluid introduced by either method makes easier the excreting functions of skin and kidneys, while, with open drainage, secretion from the peritoneum is stimulated and absorption is correspondingly checked.

I am by no means convinced that I have seen any benefit from opsonic treatment in these cases; the opsonic therapy is rather of value in stimulating to activity latent resistance in the presence of chronic infections to which a certain tolerance has been established; I believe that in these acute overwhelming intoxications the index will be found high, and those cases where this is not true the reduced resistance thus indicated is one of exhaustion rather than of tolerance.

Opium is condemned by Murphy and many others by reason of the tendency to cause poisons to be retained in the intestine, because it masks symptoms, and because, as demonstrated by Dudgeon and Sargent, it inhibits leucocytosis. These arguments are rational; on the other hand, great discomfort and restlessness, especially with children, tend to exhaust the vital forces as well as to distribute the infection. Accordingly, I sometimes use morphine or codeine in the after-treatment and believe they have a place where properly used.

I use no cathartics until the stomach is settled and the symptoms of active inflammation cease, usually not before the fifth day after operation.

If increasing, wave-like pains, perhaps with visible peristalsis, indicate mechanical obstruction of the bowel, I again open the abdomen and endeavor to find and release it. If a paralytic condition of the intestinal walls becomes marked, I perform enterostomy. I have had apparently desperate cases recover after this procedure.

The treatment of peritonitis is essentially prophylactic. This implies early diagnosis, dependent upon an understanding of etiological conditions, and early operation, as is particularly illustrated in the case of acute appendicitis. In some cases the opportunity to save life will slip away if we wait for definite indications in temperature, pulse, and local manifestations. Such indications often become definite only when the case is hopeless.

Finally, let it not be forgotten that the source of infection must be determined and removed before the active inflammation involves a large area. If this can be done, then even a wide-

spread distribution of pus, arising from a process still localized need not prevent our saving nearly all cases; but, if we insist upon seeing rather than foreseeing the classic signs and symptoms of the generalized process, then nearly every patient will die.

THE VALUE OF UNINALYSIS IN THE RECOGNTION OF DISEASE*

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That an accurate knowledge of the bodies excreted by the urine is of great importance has long been recognized, and most elaborate have been the investigations to determine both the nature and quantity of these substances not only in normal but also in pathological conditions.

We are well aware that normally certain products occur in relatively large amounts and give prominent tests characteristic of certain disorders, while on the other hand, such minute traces of other products are present that their detection is a matter of considerable difficulty to even the skilled chemist.

By experiment we have learned that certain grave disorders are accompanied by the presence of certain substances in the urine, and that where our chemical and microscopic tests are accurately performed we have at hand a valuable aid to the recognition of disease.

It is true that we occasionally find traces of substances appearing in the urine which we are unable to connect with any specific disease or condition of the body, and consequently the detection of those substances is without value at the present time, but the study of such substanes is continually going on, and we trust that the time is not far distant when we will be able to obtain much more valuable knowledge in the diagnosis of disease from an analysis of the urine.

The urinary tract may be subdivided into four parts, namely, the kidneys or secreting part, the ureters or conducting part, the bladder or receptacle, and the urethra with its accessories in the male. Each of these parts may be the subject of pathologic changes and at times it may be very difficult or even impossible from the examination of the urine alone to determine to which part or parts the disease is confined.

We may detect the presence of blood or pus in the urine, but it affords us no evidence as to its exact origin, hence such evidence is only of value in so far as it substantiates other symptoms which indicate the origin and lead us to a diagnosis. In case blood or pus is found, we should then turn to some of the ingenious devices such as catheterizing cystoscopes and urine segregators which enable us to collect the urine from each kidney separately and thus to differentiate the dseases of the upper urnary tract from those of the bladder, urethra, etc. The two and three-glass methods are very commonly used as an aid to our diagnosis in case of the presence of blood or pus.

Upon the discovery of tubercle bacilli

*Read at the June, 1908. meeting of the Ottawa County Medical Society.

in the urine, together with other symptoms of tuberculosis, it is not difficult to make a positive diagnosis, provided disease of the bladder and prostate is excluded, and careful cystoscopy and ureteral catheterization will exclude all possible error of bladder or prostate lesions. If successful catheterization shows the absence of tubercle bacilli in the urine coming from the kidneys, it is good presumptive evidence of the absence of renal tuberculosis. When the diagnosis of renal tuberculosis is made, then it remains to be determined by urine segregation which kidney is affected and the condition of the other organ. Thus I might continue at considerable length in showing how tests of this nature might be made to determine the presence or absence of certain infections of the urinary tract, but I assume that each one present is perfectly familiar with all of them so that it would be useless to mention more.

Oftentimes considerable aid to a diagnosis may be obtained from an investigation of the specific gravity, reaction, color and odor of the urine. Great variations in each one of these may occur and from perfectly normal causes, hence we must be cautious in drawing conclusions. A specific gravity of 1.040 or higher would make one suspicious of diabetes mellitus, which suspicion could easily be confirmed by testing for and finding sugar present. A low specific gravity, with small volume of urine, must also call for investigation, as this points to the absence of or marked decrease in the normal constituents of the urine from some cause. A lower density is also observed in diseases where the elimination of urea is slower because of hindered tissue changes, in conditions of malnutrition in general, and in any disease involving the structure of the liver itself. In acute yellow atrophy of the liver, for instance, urea is much diminished, and the specific gravity low. When the salts consumed are eliminated temporarily in various exudations or effusions rather than by the normal manner there is a low specific gravity. In health the reaction of the urine is always acid, yet there is such a thing as having the urine so strongly acid that much discomfort is caused during its passage. In case of decomposition of the urine in the bladder, we will find an alkaline reaction accompanied by a strong, foul odor. A sweetish odor suggests the presence of sugar. A highly putrefactive odor is also suggestive of trouble.

In pathological conditions the color of the urine is often characteristic and of great importance in diagnosis. The presence of blood is indicated by the more or less sharp shade of red, while a peculiar greenish brown color is suggestive of bile. The urine of diabetes mellitus is usually very pale, while fever urine is usually highly colored.

Blood is often discovered in the urine and then we have the condition called "Hematuria." It may be caused by the following diseases: Malignant forms of acute specific fevers, renal causes such as congestion and inflammation of the kidneys, and may be very trifling in carbolic acid, and catharides, new growths, tuberculosis, stone, certain affections of the urinary passages such as stone in the ureter, tumor or ulceration of the bladder, enlarged prostate, and in traumatism. Hemorrhage is often the first symptom of tuberculosis of the kidneys, and may be very trifling in quantity and amount. Permit me to cite the case of a young man, single, age 22, who was suddenly seized with pain and tenderness in the region of the appendix. Tenderness and muscular resistance were extreme. Very frequent urination attracted attention to the urine. Free blood was found in the urine, and in a few hours a small calculus was passed. This patient might easily have

been operated on for appendicitis had not a urine examination been made.

Pyuria or pus in the urine gives evidence of pyelitis, pyelonephritis, cystitis, urethritis, leucorrhea, and a rupture of abscesses into the urinary tract or passages.

The presence of albumin in the urine was formerly regarded as indicative of Bright's disease, but now it is recognized as occurring under many circumstances without the existence of serious organic change in the kidney. Some questions regarding albuminuria are still a matter of dispute, some good authorities claiming that the presence of albumin in the urine is always indicative of some pathological condition, while other equally good authorities claim that albuminuria may be physiological, as, for instance, in cases following strong muscular exertion, the ingestion of food rich in albumin, violent emotion, cold bathing, and dyspepsia. However, I believe the balance of opinion would support the belief that albuminuria in any form and under any circumstance, may be regarded as a manifestation of change in the renal or glomerular epithelium, a change, perhaps varying in degree, and often transient. Albuminuria of adolescence and cyclic albuminuria, in which the albumin is present only at certain times during the day, are interesting forms. Pyrexia, or fever, of any origin, may cause slight albuminuria, due to slight changes in the glomeruli induced by the fever, such as cloudy swelling, which could never be termed an organic lesion. As instances of the febrile albuminuria, the following case may be of interest.

The patient, Frank H., age 25, had a very severe attack of pneumonia involving the right lung, with increasing dullness of mind. A urinalysis showed a gradually increasing amount of albumin and many casts, showing the severity of the toxemia.

Albuminuria is also extremely common in diphtheria, typhoid, malaria and even in acute tonsilitis. Albumin is found in hemic changes, such as purpura, scurvy, syphilis, leukemia, anemia, chronic lead or mercury poisoning. The transient albuminuria of pregnancy would also come under this head. Perhaps it is worth while quoting two cases in explanation of this subject:

Case I.—A single woman, age 20, was suddenly seized with constant vomiting, severe headache, apparent delirium. The urine was examined and albumin discovered. The urine was of small quantity—high specific gravity, with a trace of albumin. Microscopically there were no casts, but numerous leucocytes and epithelial cells. The urine examination did not justify the diagnosis of uremia, and a careful physical examination showed the patient to be pregnant.

Case II.—Mrs. L., mother of one child. With this first child there was considerable puerperal toxemia with albuminuria and casts in the urine. She became pregnant again in the course of two years, and consulting a physician, frequent urine examinations were urged. For over five months the urine was normal, after which time the patient neglected to send further specimens for examination. Two months later she was seized with convulsions, with the urine full of albumin and casts, and in spite of treatment she died in 24 hours.

A neurotic albuminuria is often seen after an epileptic attack, and in apoplexy, tetanus, exophthalmic goitre, and in injuries of the head. Albuminuria is also found with definite lesions of the urinary organs, as in both active and passive congestion of the kidney. Also in organic diseases of the kidneys, as in acute and chronic Bright's disease, amyloid and fatty degeneration, suppurative nephritis, and tumors. Albuminuria is also found accompanying diseases of the pelvis, ureters, and bladder, when associated with the formation of pus.

I have all reason to believe that many a wrong diagnosis is made because albumin is found in the urine, and that many a case is diagnosed as Bright's disease when it is something entirely different. I would therefore urge you to rely upon the finding of albumin in the urine as only an aid to your diagnosis, instead of concluding that the complaint is Bright's disease just because a trace of albumin has been found in the urine.

In acute parenchymatous nephritis (acute Bright's disease) the urine will be of high specific gravity, 1025 to 1030, scanty, smoky in color, due to the presence of blood. Albumin present in large amount, and casts of the uriniferous tubules, blood corpuscles, uric acid, urates, oxalate crystals and epithelium. The urine will also be lessened in quantity from one-fourth to one-half the normal amount.

In chronic parenchymatous nephritis (chronic Bright's disease), the urine is high colored, albuminuric, and contains hyaline casts, granular epithelium, the amount of urine increased, and the normal constituents of the urine, particularly the urea, diminished.

In interstitial nephritis or sclerosis of the kidneys, we find an increased quantity of urine, pale color, low specific gravity, small amount of albumin, which may be absent for days, and occasionally epithelial cells, hyaline and granular casts.

Let us next consider what may be learned from the detection of sugar in the urine. Some of our leading physiological chemists hold that traces of a sugar known as dextrose exist normally in the urine; that is, that there may be such a thing as physiological glycosuria as distinguished from the well-known pathological condition characterized by the presence of relatively large amounts of sugar in the urine and called "Diabetes mellitus." The amount of sugar normally present in the urine cannot be detected by our ordinary tests, but an amount of sugar in the urine sufficient to have clinical importance is readily recognized by many tests. The characteristics of a true diabetic urine are these: A higher specific gravity than normal, greatly increased quantity, light color, speedy to decompose, and an amount of sugar easily detected.

It is well known that sugar may occur temporarily in the urine from a variety of causes, such as from the absorption of several poisons, in carbon monoxide poisoning, also in certain diseases, but in all these cases the amount is very small. The continued presence of sugar is always indicative of only one trouble, namely diabetes mellitus.

Although many investigations have been made on the subject of the normal urinary pigments we are yet unable to give a very definite account concerning them, hence we will not burden your mind by discussing any of them.

We hear a great deal about uric acid being present in the urine, but our knowledge regarding the clinical significance of variations in the amounts of uric acid passed is very defective. It is generally held that there is a considerable increase in the amount of uric acid excreted in fevers and in diseases characterized by diminished respiration and consequently imperfect oxidation. In leukemia there is a pronounced and charactertistic increase of uric acid. Great variations in the excreted uric acid seem to be characteristic of a train of disorders rather than a single disease. It seems to have been clearly shown that there is an accumulation of uric acid in the blood in cases of gout.

Urea is the most important nitrogenous substance excreted in the human urine. In the urine of the average man it is between 30 and 40 grams, while in the urine of women it is less. In diabetes mellitus, and insipidus, and also in fevers, urea is increased in total amount,

although it may be diminished in percentage. Clinically, the increase in diabetes and fevers is of the greatest interest because we there have evidence of increased consumption of the nitrogenous tissues of the body. In acute yellow atrophy of the liver there is always a diminished amount of urea.

So we might speak about the significance of lithuria, oxaluria, cysturia, phophaturia, indicanuria, melanuria, pneumaturia, and other substances in the urine, but as tests for these substances are not usually made by the physician engaged in general practice, we will not take your time to discuss any of them.

In closing, we would say that any attempt to make an accurate diagnosis of any case by the presence or measurement of any substance in the urine is fallacious in the exereme. The most reliable data about the urine are those most easily, simply and quickly obtained. By a comparison of autopsy findings in the same cases, albumin and casts in the urine do not always mean that a pathological nephritis is present in the case, and, on the other hand, that a true pathologic nephritis may be present without the presence of albumin or casts in the urine. Let us therefore be careful not to diagnose any case from one or two symptoms alone, because in the examination of the urine certain findings do not always warrant a diagnosis. The true value of urinalysis in the recognition of disease lies only in the fact that certain findings, together with other symptoms of disease, may aid us greatly in making an accurate diagnosis.

CONSERVATISM IN THE SURGERY OF THE UTERINE ADNEXA FOR THE PRESERVATION OF THE POSSIBILITY OF PREGNANCY*

G. VAN AMBER BROWN, M. D.,
Detroit.

The history of conservative surgery of the pelvis, in the way of opening up pus tubes and pelvic abscesses by rectum or vagina, dates back for centuries. In 1831 Recamier opened into an ectopic gestation, thinking that he was dealing with a pelvic abscess. Then followed a period in which the surgeon found that the introduction of asepsis had enabled him to enter the pelvic cavity with a lower mortality, and for years the surgeon ruthlessly and needlessly sacrificed ovaries and tubes until Jacobi, as an internist, and William H. Polk, as a gynecologist, sounded the warning, Jacobi stating that he preferred to have most of those ovaries left in his patient's abdomens to seeing them in a surgeon's jar; Polk warning us to be slow in laying operative hands upon the tubes in acute salpingitis. Closely following this, the fight was taken up by men such as Boldt and Martin of Germany; Pozzi of France; Webster, Kelly, Martin, Clark, and others of this country, chief of which was the late Dr. Dudley, until in this connection their names are known throughout the world. From this, step by step, we have learned that disease of tubes and ovaries does not mean their extirpation.

*Read at the 43rd Annual Meeting of the Michigan State Medical Society, June 24-25, 1908.

No longer do we remove an ovary that is micro-cystic, for, as shown by Welch and Wylie, it is not a pathologic lesion of such proportions as to justify such a procedure; nor do we remove a tube because it has been twisted or kinked by adhesions. The saving of these has been adopted now as a matter of course, and we are today busying ourselves with the more difficult problems of conservatism in gynecological surgery.

Conservative work on the ovary has lately been very satisfactory with regard to the occurrence of pregnancy. Resection of the tube has been unsatisfactory in this respect. Still, as a result of the good work that has been done along these lines in very recent years, I believe that we have devised means by which these organs may be treated so as to secure health to the patient without robbing her of the possibility of pregnancy. It is by briefly reviewing the physiology of the mechanism of impregnation and the newer surgical measures that I hope we shall be still further encouraged in this effort.

Physiology.

In an uncertain proportion of instances the ova find their way into the Fallopian tube, thence into the uterus. The means by which this is accomplished has given rise to much speculation and many interesting experiments. Several theories are advanced. The one most generally accepted at present is that the ovum is carried into the ostium abdominale by the current created by the ciliated epithelium, whose movements are always toward the cervical canal. These cilia are found throughout the fimbriae, tubes, uterus and upper part of the cervix.

The ovary, which is covered with short, columnar epithelium, probably has constantly flowing over its smooth surface a liquid which is directed by the ciliary current toward the tube. For example, it may be supposed that a graafian follicle is ruptured when the fimbriated extremity of the tube is not applied to the ovary (for it is difficult to understand how it can be intimately applied to the ovary, especially to exert any appreciable pressure, since it has no erectile tissue), and that the liquid of the follicle, along with the ovum, takes the same course.

It is to be remembered that the conditions dependent on the currents of the liquid directed by the movements of the cilia are constant, and could influence the passage of an ovum at whatever time it might be discharged, while the muscular action would not be constant. Since the ovum is but 0.25 m.m. in diameter, there seems to be no reason to question the power of the current to draw it into the tube without invoking the aid of muscular action. Foreign bodies stained and thrown into the pelvic cavity of animals are later found in the tubes and uterus; indeed, facts are accumulating showing that this current is capable of carrying the ovum from the ovary of one side to the tube of the opposite side, and is known as *external migration,* and is perhaps not as infrequent as would at first be thought. The passage of an ovum from an ovary down the tube of the same side is *internal migration.*

The fact has been pointed out that in animals with a bicornate uterus the ova may be liberated from the ovary of one side, as shown by the presence of the corpora lutea, while the embryos are developed in the horn of the opposite side. For further evidence that the ovum is discharged into the pelvic cavity and may travel in the narrow spaces between the viscera to the tube of the other side, the ovary may be excised on one side and the horn of the uterus on the other and the animal become pregnant following copulation. That this

truth is maintained in the human is evidenced by the case of Kelly in which he removed the left ovary and the right tube from a woman who fifteen months later was delivered of a child at term, and by my own case to be reported in this paper.

Surgical Measures.

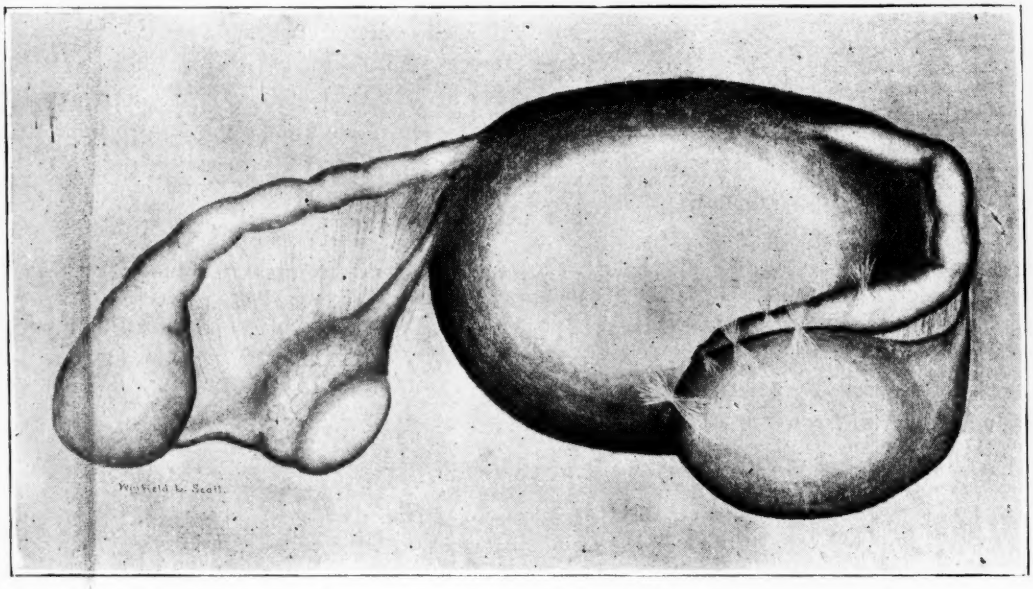
To attempt to specify the precise conditions under which we may conserve the adnexa so that pregnancy may become possible is not an easy task. Great care must be exercised in the choice of cases, also the operative process. The operator must also consider whether his patient is likely to be cured, if she will be improved, or if the disease will advance and her suffering continue. At present, however, it will probably be pretty generally conceded that the following operations may be done in a very large percentage of cases: Saving of ovaries containing large graafian or corpus luteum cysts, hematomata, fibroid tumors, dermoid cysts; suspending ovaries that are prolapsed; saving a sound ovary or part of one with a sound tube or part of one on the opposite side; saving the ovary on one side with extra uterine pregnancy on the same side; saving ovaries or tubes that are mutilated in being liberated from adhesions, drainage of pelvic abscess, or an inactive hematocele. The resecting of a portion of a tube is a procedure occasionally made necessary by myoma or extra-uterine pregnancy, but generally made so as a result of certain inflammatory processes, a field in which conservatism has not been very closely outlined; however, the indications as laid down by Webster seem to be quite proper, in which he says: "This pocedure must never be carried out if any indications exist pointing to active infective process; e. g., elevation of pulse and temperature, leucocytosis. There should not have been any history suggesting infection within, at least, six months. If the tube contain pus, the operation is not advisable unless distension of tube has been known to exist for many months. Bacteriologic tests of the tube contents are alone capable of determining their sterility, but unfortunately these cannot be made in the process of an operation, though of course slides may be examined to determine whether or not germs are present. Yet, negative results are not proof of sterility. If the inner end of the tube be much thickened the lumen is not likely to be of sufficient caliber to insure the passage of an ovum, even though resection be performed, and such a condition should be regarded as a contra-indication to the operation."

Unfortunately, pus cases are found principally in very young women, and for this reason especially one feels most anxious to apply conservative principles; yet one hesitates, as they are usually followed by such disagreeable symptoms. However, we meet with brilliant exceptions. In hydrosalpinx and hematosalpinx there is practically no risk from infection in performing a resection, neither is there much when the fimbriated end is buried in adhesions, the tube not being thickened or distended or its lumen closed. Of further interest in this connection, the experiments of Fraenkel, which were carried out at the suggestion of Born, would lead us to believe that the removal of ovaries during the early part of pregnancy will probably terminate it. Fraenkel removed ovaries from rabbits from one to six days after copulation, in order to decide whether the ovary exercised any influence on the growth of the mucous membrane of the uterus and its preparation for the fixation of the ovum. On subsequently killing the animal it was found, in every case, that the extirpation of the ovaries had prevented the fixation of the ova. If, however the ovaries were removed after the fourteenth day of the preg-

nancy, which in the rabbit lasts about thirty days, the animals went on to full term and healthy fetuses were produced.

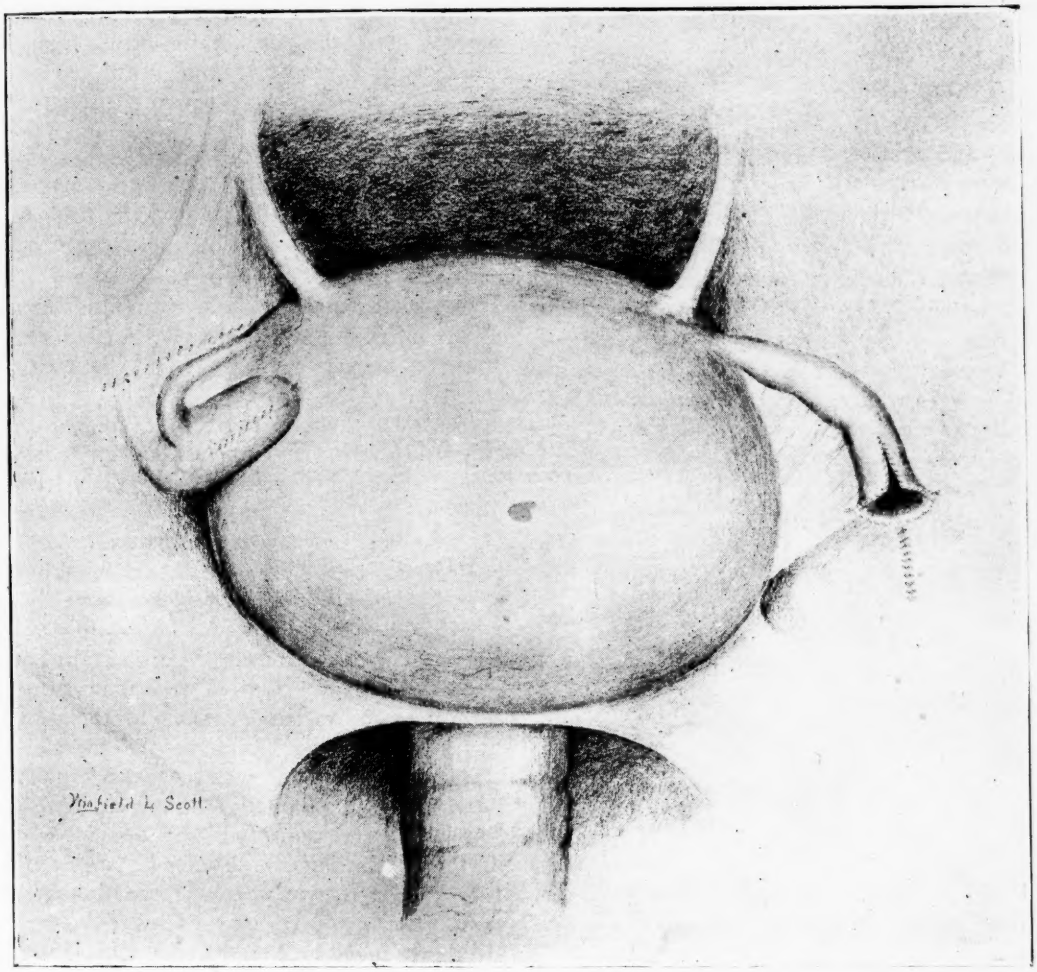
Technic.

By the abdominal route, as soon as the peritoneum is opened, towels are placed so as to protect the surrounding organs from contamination, should infectious material be encountered. Adhesions are slowly and carefully broken up, and the condition of the adnexa on either side studied before repair is begun. If an ovary is to be resected, it is held by forceps placed close to either side of it at the edges of the infundibular and ovarian ligaments, and with knife or scissors the diseased or torn portion is removed, leaving on the remnant an elliptical raw surface. The raw edges are brought into close apposition with a fine plain catgut suture, either interrupted or continuous. Ligatures are unnecessary. In resection of the tube, the outer portion is to be removed, making the incision, with scissors, as far from the uterus as conditions will permit, then a probe is passed to prove that the lumen of the tube is not destroyed. The incision is an oblique one, to give a larger ostium; if the opening be small, it may be considerably enlarged and nature more nearly imitated if the tube is incised for an inch or less along its upper margin; next, approximate the mucosa to the peritoneal covering about the opening in such a manner as to evert the mucous membrane. For this, interrupted sutures of plain fine catgut are used. The lumen may then be swabbed out with any appropriate antiseptic solution. The distal angles of the incision are now turned outward and stitched to the meso-salpinx in such a manner as to give the tube a bell-like appearance. Although I have not used it, it would seem to me that the use of the cautery, burning the edges until they are charred black, would probably prevent formation of adhesions. The edges of the meso-salpinx, from which the outer end of the tube has been removed, are now



stitched in apposition. Iodoform gauze is placed into the pelvis as a safeguard against possible infection; one end of the gauze is placed in the vagina for convenient removal and the abdomen closed.

Let me here call attention to the matter of posture, which I think worthy of consideration. The natural drainage of the intra-peritoneal cavity is by way of the abdominal current, through the diaphragm, and it is known that large particles are taken up at this point. In view of this fact I offer this suggestion, that as a further aid to the bringing about of pregnancy following conservative operations, the patient be instructed to always, for several days following coitus, assume either the exaggerated Fowler's or standing position. By her doing this the ovum would gravitate toward the pelvic current and from the abdominal current.



Results: John G. Clark, in a private correspondence, states that out of 75 letters of inquiry which were first sent out, 22 inflammatory cases operated conservatively were heard from, as follows:

9 are entirely well;
12 have pelvic nervous symptoms at the menstrual period;
15 have more or less menstrual pain;
4 claim to be no better than before operation;
1 has become pregnant since operation and went to full term.

As a summary, 18 out of the 22 are better than before operation—ranging from moderate relief to complete cure.

Brothers reports from 160 cases operated conservatively as follows:

2 died.
26 tubes, 2 unsatisfactory.
44 ovaries, 6 unsatisfactory.
90 tubes and ovaries, 7 unsatisfactory.
85 have since reported; out of these,
6 were operated a second time:

1 ovary,
1 tube,
4 tube and ovary.

In other words, 7% came to second operation; 7½% became pregnant—though, like Clark, he does not say in what per cent of these cases these possibilities were conserved. The general results, he states, compare very favorably with the more radical operations producing:

Cessation of menses;
Hopeless sterility; and
Nervous breakdown.

From my own practice, out of cases operated conservatively, 22 were heard from, and I offer the following report for what it is worth:

12 were non-inflammatory;
10 were inflammatory;
00 died;
11 are well;
8 improved;
2 are no better;
3 were operated upon lately, too soon to report.

Of the 19,

17 are improved or well. Of these,
12 (3 inflammatory, 9 non-inflammatory) cases were operated to conserve for pregnant possibilities, three were operated during the last few weeks. Out of the 12, eight are married, and two pregnancies have occurred: 1 non-inflammatory; 1 inflammatory (the non-inflammatory aborted by design; the inflammatory went to full term, and I will now report it in detail):

August 1st, 1906, Mrs. E. L., age 27, slender, weight 103, usual weight 130, house wife, had chorea at 14 years, married at 17; 5 months after marriage had miscarriage; one year later had a boy at full term; 7 months after confinement, had a miscarriage. Not pregnant since. Menstruates regularly 60 hours out of each four weeks. At present complains of the following symptoms, which have existed for nine years, except that they have grown more pronounced of late. She has an irregular appetite, tongue is coated, is sensitive, has weak feeling in abdomen, no sexual desire, complains of chills at times and feels like choking; head aches, has tired back and legs, slight vaginal discharge and constipation. Examination revealed the following:

The right kidney freely movable; perineum torn; adhesions about clitoris; cervix torn bilaterally; uterus retroverted; left ovary enlarged and prolapsed.

Operation August 3rd, 1906. Dilated cervix, curetted uterus, repaired cervix and perineum, dilated rectum, removed rectal papillae, freed adhesions of clitoris; opened abdomen, breaking up adhesions, removed left ovary—which was completely destroyed by cystic degeneration—removed right tube which was thickened and distorted. The right ovary, which contained a small cyst, was torn in removing it from its bed of adhesions, and was repaired and then suspended by the utero-ovarian ligament to the posterior surface of the right side of the uterus. The condition of the tubes and ovaries previous to operation is fairly well represented in drawing No. 1; the condition after operation is very well shown by drawing No. 2. At the same sitting a Gilliam's suspension was done, also a kidney fixation. She made an uneventful recovery, leaving the hospital on the 19th day. On July 16th, 1907, eleven months and thirteen days after the operation, she was delivered at term of a healthy boy. This is, I believe, the first case to be reported where pregnancy followed so highly conservative an operation.

Condylomata lata are best not removed by the knife or scissors. They are very vascular and excision does not prevent their recurrence. Local measures not surgical are numerous and successful.

The irritation or so-called stimulation of venereal or genito-urinary diseases is not to be commended. Instead of improving them it makes them worse and the cure of the original trouble is not only retarded but made more difficult.

THE COUNTRY SURGEON*

H. B. GARNER, M. D.,
Traverse City.

During the rapid strides of medical science, and the great tendency on the part of the medical profession to specialize, wherein the specialist appears before the public, like sparkling diamonds among the sand, you can readily appreciate that a condition like this does not offer to the plain country surgeon the standing and credit that rightfully belong to him. Without good, practical sense associated with sound reasoning in the field of general medicine, there can be no solidity of surgical judgment.

The good judgment, the delicate touch, careful manipulation, and the art of discrimination, that demonstrate now (as always) the finished surgeon, are not acquired in the lecture rooms nor by the post-graduate talks, given by the professors of this country or Europe, but can only be obtained by first gaining a thorough understanding of anatomy, followed by practical experience at the operating table; it is not the man who can simply cut, but the one who knows when to operate and when not, who can carve his name into the temple of surgical fame. It has been said, and often intimated by city physicians, that we country doctors are asleep, and afraid of doing our surgical duty; on the other hand, we have on many different occasions been severely criticized for attempting to perform any abdominal surgery. How different is the language of Samuel D. Gross, who asked God to bless the country surgeon, for this old master of American surgery says that it is the country surgeon who often leads the way into the hither-to unexplored fields of surgical ignorance, where the city surgeon (under like circumstances) would have found it difficult to follow.

I am a firm believer in the statement of Dr. Z. H. Evans, "that much of the surgery of fifty years ago, would now not fall much short of malpractice, and what is *now* being perfected may in the future prove to be wanting in many respects. That we are following out surgical laws no surgeon of experience will deny, but will agree that the better we understand these laws, the fewer surgical failures we will have credited to our records. Before we are properly equipped with the necessary knowledge, it will be needful to open many dark cavities into which we must admit the rays of surgical light, and in so doing will experience severe criticisms, especially from the narrow-minded members of the profession.

Dr. Robt. T. Morris, of New York, states that it is not a question whether he be a city physician, or a country surgeon, it depends upon the man and his early opportunities; should we send a man who is bleeding to death from gun-shot wound, or the woman who is flowing to death from intra-uterine hemorrhage, to the city specialist for operation? Not by any means, for the physician who would not give such a case immediate attention, using the best surgical ability that could be instantly secured, would be guilty of criminal neglect. Many of the great operations have been first performed by country surgeons, as for example:

*Cha'rman's address to the Surgical Section of the Michigan State Medical Society, at the 43rd meeting, in Manistee, June 24 and 25, 1908.

Dr. Walter Bradshear, of Kentucky, was the first in this country to amputate at the hip joint, in 1806.

Henry S. Levert, of Louisiana, became the father of the metallic ligature in 1828. The honor of ligating the internal iliac was awarded Dr. Stephens, of St. Croix, in 1812.

Dr. Ephraim McDowell, in December, 1809, was the first to remove an ovarian tumor (the operation being performed in the little building of his house in Danville, Kentucky). "A back settlement of America — Kentucky — has beaten the mother country, nay, Europe itself, with its boasted surgeons thereof, in the fearful and formidable operation of gastrotomy, with the extractions of the ovaries." What was then said in sarcasm is now the truth. Here in 1812, he removed a stone from the bladder of James K. Polk, afterwards President.

Dr. White, of Hudson, N. Y., in 1827, was the first to tie the common iliac. Dr. Deveric, of Tennessee, in 1806, was the first to remove the lower jaw. Was not this lonely doctor in the mountains of Tennessee the first surgeon in the country to operate successfully for Caesarean section? Dr. Z. H. Evans, of Traverse City, was the first to operate successfully for spina-bifida, in 1888.

I wish to speak of another country surgeon who, Sir John Bell said, "had the brain of an Apollo, the heart of a lion, the eye of an eagle, the hand of a woman." This person was no other than J. Marion Sims, one of the greatest surgeons the world has ever known. His professional fame rests upon his treatment and cure of vesico-vaginal fistula; before his operation it had been deemed incurable, he having invented and applied the silver suture, to secure the result of such an operation. Second, in 1845, of the speculum that bears his name, of which Dr. Emmet says, "From the beginning of time to the present, I believe that the human race has not been benefited to the same extent and within a like period by the introduction of any surgical instrument." Third: Upon the exposition of the pathology and true method of cure for lock-jaw in infants. Fourth: Upon the established fact that he was the founder and organizer of the Woman's Hospital of the State of New York, the first institution ever dedicated exclusively to the cure of the diseases of women. Fifth: Upon his many valuable contributoins to medical literature. Dr. Sims' teachings were appreciated abroad, and recognized by his having conferred upon him the highest decoration of France, Germany, Italy, Belgium, and Portugal.

J. Marion Sims has left a name that the world will not willingly let die; the members of the medical profession throughout the United States may truly exclaim on contemplating his great achievements, in the words of the inscription above the statue of La Place, in the hall of the French Academy of Science, "We were not needed for his glory, he was necessary for ours."

Is there a man before me who would question the right of any one of these gentlemen to open the abdomen, even if they were practicing in the swamps of Louisiana, or the lonely mountains of Tennessee?

Gentlemen, is it not a physician's good conservative judgment that wins? It matters not if he be practicing in New York City, the jungles of Africa, or the swamps of Alabama, this is not only true of medicine and surgery, but will hold good in every line of business. We are all students, some a little in advance of others, but the opportunity is open and the way clear for any one with ability and determination to become as great as any man whose greatness has been known to the world.

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SEPTEMBER

Editorial

The Typhoid Season is Here.—With the coming of the season when typhoid fever is wont to create its greatest havoc, it behooves everyone who is interested in his own health or that of the community to take thought how best to minimize the ravages of this obstinate pest. Time was, and not so very long ago, that we were well content with our knowledge of the danger, direct and indirect, that lay in infected water supplies, and fancied that the man who drank only boiled water and "certified" milk might well consider himself safe. Experience, as usual, has shown us that we knew rather less than we thought we did. It is still true that the greatest damage is done by infected water—the farm well polluted by drainage from the privy vault, and its water not only drunk (and the flavor enjoyed) by everyone on the farm, but used to wash the cans that carry milk (and bacilli) to many dwellers in the distant city; the watercourses, large and small, contaminated by sewage, by the discharges of the laborer with "ambulant typhoid" upon their banks; or of the passengers in boats. These evils still exist, and it is little to our credit that with full knowledge of what they mean and how to correct them, the progress of their amelioration has been so slow. The wise man still drinks boiled water and investigates with some care the source of his household milk supply, but he can no longer feel that this alone makes him secure. We are indebted to the outbreaks of typhoid fever during our own Spanish war, and the very brilliant and convincing work of the commission which studied them, for the revelation of the very great importance of two other hitherto little considered means of infection—personal contact, and the common fly. Nothing is more striking in the modern literature of epidemiology than the waning of the old ideas of infection by air or sewer gas, and the tracing of all contagion to definite personal contact—direct, or through an intermediate carrier. Of these intermediate carriers, not only for typhoid, but for many other of the grave infections, one of the most important is now generally known to be the ubiquitous housefly. As a mere disturber of our comfort during the warm months, this insect is bad enough; but viewed as a distributer of tuberculosis, the exanthemata, typhoid, etc., he becomes a grave menace, to be tolerated only so far as he cannot be suppressed. We have fallen too much into the habit of regarding him as a necessary evil, to be mitigated, perhaps, by screens, but not to be eradicated; and it is time that every sanitarian, physician or intelligent layman should know that the house fly, like the disease-bearing mosquitoes, breeds only under certain conditions, and that it is wholly feasible that these conditions should not be allowed to exist. Efforts to this end are being made by various health boards and other organizations devoted to public sanitation, and we select for quotation as especially pertinent some extracts from the circular issued by the Merchants' Association's Committee on Protection of the Waters of New York:

"Don't forget if you see flies, their

breeding place is near by. It may be behind the door, under the table or in the cuspidor.

If there is no dirt and filth there will be no flies. All refuse which tends in any way to fermentation, such as bedding, straw, paper waste, and vegetable matter, should be disposed of or covered with lime or kerosene oil.

Keep all receptables for garbage carefully covered, and the cans cleaned or sprinkled with oil or lime.

Keep all stable manure in vault or pit, screened or sprinkled with lime, oil, or other cheap preparation.

Do not allow decaying material of any sort to accumulate on or near your premises.

Screen all food exposed for sale.

Screen all windows and doors, especially the kitchen and dining room.

Burn pyrithrum powder in the house to kill the flies.

Keep the flies away from the sick, especially those ill with contagious diseases. Kill every fly that strays into the sick room. His body is covered with disease germs.

If there is a nuisance in the neighborhood, write at once to the Health Department."

These things are all practical and important, and many of them are almost universally neglected.

There has been during recent years a very gratifying growth in the sense of responsibility on the part of our profession for the education of the laity regarding the prophylaxis of disease; but in the matter of typhoid fever we still have much to do. Municipal and state boards have accomplished a good deal toward preventing or remedying contamination of public water supplies, often in the face of obstinate opposition due to ignorance or selfishness, and a notable movement in our own region is that looking to the improvement of conditions upon the great lakes. Public authorities cannot, however, and should not be expected to do the whole work, especially in the rural districts. The private practitioner has his own part to play, and in these enlightened days he can hardly be said to be performing his whole duty to the families he visits or to the community at large if he does not inform himself and his patients regarding possible sources of infection before, not after, the outbreak of a preventable disease. The town or village well polluted by drainage from privy vaults or streets, is almost as common now as twenty years ago, and has no excuse for existence. The fly is a universal pest, and always a potential source of danger, which can and must be removed. It is a part of our duty to inform ourselves on matters of this nature, and give the public so far as possible the benefit of our knowledge.

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The improvement of the standards of medical education has been one of the constant endeavors of the American Medical Association since its foundation. In fact, the Association is the direct outgrowth of a convention called in 1847, for the purpose of discussing plans for improvement in the education of the profession. The association has not been content to simply pass resolutions favoring the higher standards, but has had committees at work actively engaged in studying the problems of the medical school and successfully devising plans for the betterment of medical training.

The problem of medical education in America is somewhat different from that in any other country, for many of our schools have been organized privately and are maintained for profit. The talent, the energy, and the money which should be concentrated in a few strong schools are dissipated among many. Ohio, for example, has eight medical colleges, where two strong schools with

university affiliations, would be quite sufficient. In the whole country there are 161, eight more than in all the countries of Europe; forty-eight per cent of all the medical colleges of the world. It is impossible for so many schools to be properly equipped, for the supply is far above the demand. It is this multiplicity of schools, many of which cannot afford to supply the higher training, which makes the problem of medical education in America a difficult one.

Much good work, however, has been accomplished. Of the advances thus far achieved, the credit in a not inconsiderable measure, belongs to the American Medical Association. When it began its agitation, many, if not most of the schools, granted diplomas on about six months of actual attendance upon lectures. The rapid advances in the medical sciences demanded much more than this, so that the lengthening of the course of study was in some measure evolutionary, but the demand made by the Association for better standards did much in forcing the colleges to do better work. The more active interest on the part of the national society began with the new era of medicine, when, in 1902, the Association created the standing Committee on Medical Education, which in 1904 became the Council on Medical Education.

The chief aim of this Council is the unification of standards. It works with and through the various state boards of registration and has already been a potent factor in raising requirements. The Council has made a careful study of the whole problem. Formerly the rating of a college was made on its own report. In 1907, however, every school was visited by some one member of the Council and a constant surveillance is kept not only upon the facilities for teaching, but upon the results as well. According to the standing of graduates before state boards, the colleges were divided according to their standing into three groups: Group I, in which were placed all the schools above 70, which was taken as a passing mark. Group II, which included the schools marked from 50 to 70. This mark was regarded as not acceptable, but it was considered that the deficiencies in this group might be remedied by such improvements as would bring the standing above 70. Group III, in which the markings were below 50, the facilities entirely inadequate and the work bad.

As a result of this publicity, many schools have lengthened their courses and increased their entrance requirements.

Another phase of the work of this Council is the study of medical registration in the various states. As is well known, there is no uniformity at present. There should be and there will be in time, for the profession, without regard to sect or school, wants it and what a majority of the profession wants it will get.

The following is a summary of the condition of medical education in the United States, as expressed by the Council in the last annual reports. (A portion from each report):

The great advance in the sciences in recent years has created the necessity for a much broader and more thorough education, both preliminary and medical, for the physician equipped to practice modern medicine.

The standards of the medical schools in the United States are very uneven, representing the highest and the lowest types as compared with the standards of England, France and Germany. As a whole, the standard of this country is unsatisfactory and much lower than in those countries.

A modern medical education demands, 1, a four-year high school education; 2, a year of physics, chemistry and biology; 3, two years in well-equipped la-

boratories of anatomy, physiology, pathology and pharmacology; 4, two years in clinical work in dispensaries and hospitals; 5, a year as interne in a hospital.

The expense for the equipment and maintenance of the modern medical school is greater than can be met by fees paid by medical students. Medical schools, therefore, need endowments in order to meet the demands of present day medicine.

In the United States, until recent years, medical education was mostly in the hands of medical colleges conducted as private institutions, while in Europe it is controlled by the universities. Within recent years, however, some of the medical colleges in this country have secured university connection.

There are still, however, a large number of schools which are conducted solely for profit, and profit is only possible where the college fails to provide proper facilities for laboratory and clinical training.

There are 161 medical schools in the United States alone, as many or more than there are in all the countries of Europe combined. Of the 160 medical schools in the United States only about 50 per cent are sufficiently equipped to teach modern medicine, 30 per cent are doing poor work and need to make great improvements, while about 20 per cent are unworthy of recognition.

Eight more colleges have been listed below 50 per cent during the past year. There are now 39 in this "unsatisfactory" group. Thirty-two offer a combined six-year course, leading to A. B. and M. D. degrees. By 1910, fifty-three schools will require one or more years of college work on entrance.

Thirty-four states have established reciprocal relations with four or more other states.

More laws influencing medical education have been secured during the past ten years in this country than in all previous years, and there is a rapid trend toward uniformity of requirement.

* * *

The resignation of Dr. George Dock from the Council is an announcement which will be received by the members of the State Society with sincere regret. As was made public during August, Doctor Dock has accepted the professorship of medicine at Tulane University, and will leave Ann Arbor for New Orleans, October first.

The State Society and the whole Michigan profession lose much by Doctor Dock's removal. For seventeen years he has taught internal medicine at the State University and his influence, during this time, has been great indeed. Year after year succeeding classes have been inspired to do thorough and conscientious work, to love the profession because it is a profession and not a trade, and to seek the higher rewards to which the physician may attain.

During his residence in the state, Professor Dock has been a prominent figure in our medical societies. He has been ever ready to devote his time and his thought to the best interests of the societies; as a member of the council, his advice was most helpful; as chairman of the publication committee his aid was most valuable.

Louisiana gains what Michigan has lost. We wish him God-speed and every success in his new field.

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Three new State Journals have made their appearance. The Medical and Chirurgical Faculty of Maryland, which is the state society, has discontinued the publication of its proceedings in the *Maryland Medical Journal,* and established a monthly *"Bulletin."* It is well printed and the choice of Dr. H. O. Reik as editor makes it certain that it will be well edited.

The first number of the *Journal of the Oklahoma State Medical Association* appeared in June. Its editor is the secretary of the association, Dr. E. O. Barker, and the publication office is Guthrie.

There also appeared in June the initial number of the *Journal of the Tennessee State Medical Society,* making the twentieth journal to be published by the state organizations. It is to be noted with considerable pride that not one of these twenty journals has been a failure. Not one of them but has steadily improved since its inception!

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Dues for Nineteen Hundred and Eight have not been received from a number of members. A list of the delinquents in each county has been sent to the county secretary in order that it may be checked up with the county books. Individual notices will be mailed this month to all members in arrears, and it is earnestly requested that prompt responses be made. Remember that state dues can only be paid through the county secretary.

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Every County Secretary should feel it his duty to attend and take part in the meeting to be held in Detroit on September 30th. Plans for the betterment of the component societies will be discussed. New ideas will be talked about. A permanent organization for yearly meetings will be formed. Dr. George H. Simmons, of Chicago, secretary of the American Medical Association, will be present and tell us what county societies America over are doing. No live organization can afford to allow its secretary to be absent—much less a dead one.

County Secretaries, Attention!

Also all others interested in medical organization. A meeting of the secretaries of the various county societies will be held at the Cadillac Hotel, Detroit, on Wednesday, September 30, 1908, at 2 p. m.

The meeting has been planned for an informal discussion of subjects in which county officers are interested. Topics have been assigned and accepted, but discussions will be expected from all present. The provisional program is as follows:

1. Call to order. Election of temporary chairman and secretary.
2. Medical Organization, What it has, and should mean in Michigan.
3. Program. Scientific Work.—Dr. C. S. Oakman, Chairman Program Committee, Wayne County Society, 1907-'08.

   Social Features.—Dr. C. D. Morris, Pontiac.

   Discussion opened by Dr. H. L. Bower, Greenville, and Dr. L. L. Cahill, Mendon.
4. The Business Side of the Secretary's work.—Dr. A. S. Kimball, Battle Creek.

   Discussion opened by Dr. A. J. Carlson, Rapid River, and Dr. S. Osborn, Lansing.
5. New Members and Attendance.—Dr. A. J. Johnson, Adrian.

   Discussion opened by Dr. A. C. MacKinnon, Lewiston, and Dr. S. Schultz, Coldwater.
6. What Can Be Accomplished by Hustling.—Dr. C. S. Cope, Ionia.

   Discussion opened by Dr. A. H. Burleson, Olivet, and Dr. E. D. Kremers, Holland.
7. The Michigan State Medical Society: Why, When, Where, How, and What It Is.—Dr. R. R. Schenck, State Secretary.
8. Business. Permanent Organization. Election of Officers, etc.

A dinner will be served at 6:30 p. m., after which there will be an address by Dr. George H. Simmons, Secretary of the American Medical Association.

Everyone interested in the work of county societies is invited to be present.

Medical Books.

As this is the season when physicians buy most of their books, we cannot do better than to quote the following excellent talk from *The Medical Fortnightly,* by A. L. Benedict, A. M., M. D., of Buffalo, N. Y.:

"Excepting the medical dictionary, 'systems' and compends of all kinds dealing with medicine ambitiously and generally are rather to be avoided. A good rule is to purchase books covering one field of medicine and that one adequately for the needs of the individual. For instance, a cyclopedic work of a dozen or more volumes costs considerable money, and while of relatively enormous extent, it is almost impossible to treat any one subject sufficiently in detail. Sometimes, by the time the last volume is delivered the first are out of date. Thus, in the course of a few years, the entire work, though impressive enough to patients, really is dead stock and must be duplicated in every particular, excepting for slowly changing branches, such as anatomy, medical history, etc.

"The medical library should be familiar to its owner. A book in which the physician cannot readily turn for information and the essentials of which he has not mastered is like an assortment of instruments, bandages, etc., put away where they cannot readily be found. Thus the nucleus of a library should consist in the college text-books—and, as a matter of sentiment, historic reference in later years and even practical utility, it is a good plan never to dispose of such books. Purchases should then be made, according to the resources and needs of each buyer, selecting well recommended books, each of which covers some one definite topic concisely but thoroughly. The viewpoint differs according to the needs and abilities of the practitioner or student. For instance, a work on physiology which is thorough from the standpoint of the practitioner may be crudely elementary from that of the physiologic expert, and, conversely, such a book as would be useful to the latter may be too recondite and contain too great a mass of detail, obscuring general principles, for the use of the practitioner. It was long ago said, 'Of the making of books there is no end.' It is unfortunate that mercenary motives have considerable influence on the publication even of professional literature. From the standpoint of the author, a text-book usually pays if he has a teaching position which will guarantee the annual sale of a hundred text-books, independently of outside markets. It also pays in the comparatively rare instances in which the author enters an original field which appeals to professional interest generally.

"The result, from the standpoint of the reader, is that medical books are not economic, either in regard to money or time. Of half a dozen works on practice, all the matter that is not common to all might be placed in a small pamphlet and all that has originated with any popular author in a few pages of print. On the writer's shelves are two works on urinary analysis, as nearly alike as two peas in all essentials. What is needed in medical literature is a sort of a loose-leaf system, by which new ideas and discoveries can be conveniently added to a standard basis. To a certain extent this can be achieved by marginal notes and slips of typewritten abstracts; but, after all, the individual reader needs, not so much what he has found as what he has not found that is new and interesting. Perhaps, some day, we shall have a centralized board that will perform this kind of abstracting and digestion of new facts."

Medical Gynecology. By Howard A. Kelly, M. D., LLd., F. R. C. S. Octavo, 662 pages, 163 illustrations, for the most part by Max Broedel and A. Horn; cloth, $6.00 net. D. Appleton & Co., New York, 1908.

In the preface of his latest book, Kelly pays a graceful tribute to the general practitioner in the following words: "The general practitioner yields up to a little group of investigators that portion of his territory which is most obscure and difficult, in which he has made the least progress; the field is diligently cultivated and a specialty is formed. Then in time the specialist so simplifies the etiology, the diagnosis and the treatment, that he is able to hand back a part at least to the general practitioner, with whom he continues in relations of harmony and sympathy, so that both work conjointly to a common end, namely the extinction of disease and the amelioration of suffering."

The book is designed to supply a basis for working out many of the gynecologic problems encountered by the man doing general work and includes therefore chapters on dilatation and curettage, suture of the perineum and other minor operative procedures. The indications for the major operations are given but none of the technic is included. The work is thus a most valuable addition to the author's "Operative

Gynecology," with which it is uniform in print and binding.

Dr. Kelly has had the aid of various collaborators in the preparation of the different chapters.

The book opens with sections on the methods of making examinations and diagnoses. The second chapter on the "Hygiene of Infancy and Girlhood," by Drs. Welsh and Sherwood, is one of the most important. The section on dysmenorrhea explodes some of the time honored and widely held ideas about the importance of anteflexion, cervical erosion and endometritis. Chapter VII on "Uterine Hemorrhage" is an excellent one. There are sections on headache, constipation, obesity and constipation. The chapter on "Backache" will be particularly welcomed by the profession, for it is an ever present complaint about which too little has been written. Considerable space is devoted to the teachings of Goldthwaite regarding the role of the sacro-iliac joints in the production of backache. Syphilis receives due attention in a chapter contributed by Prince Morrow. Important chapters are those on abortion and cystitis, the former contributed by Ill. A splendid section on "Functional Nervous Disorders Met With by the Gynecologist," from the pen of Barker, will be much appreciated.

From this brief synopsis of some of the chapters it will be seen that the book is wide in scope, much wider than the title indicates. In one sense it is the most important work which the gifted author has written, for he has given us nothing which will prove more generally useful. The work is to be recommended as the most practical and at the same time scientific book on the subject which has yet appeared.

The illustrations are by Broedel and Horn, whose work is recognized as the best in America.

Diagnosis and Treatment of Diseases of Woman. By Harry Sturgeon Crossen, M. D., Clinical Professor of Gynecology, Washington University; Gynecologist to the Washington University Hospital and Chief of the Gynecological Clinic. 700 illustrations. Octavo. 799 pages. Price, cloth, $6.00. C. V. Mosby Medical Book and Publishing Co., St. Louis, 1907.

This volume has a somewhat different scope from the usual book on gynecology and has been worked out on somewhat different lines. The author has little to say, except indirectly, about etiology, pathology or major operative treatment, confining himself as is indicated by the title, to diagnosis and treatment.

The first two chapters are the best in the book. The first covers methods of examination and the second diagnosis. They comprise over 300 pages and are illustrated by 440 cuts. Many of the cuts are original and are reproduced from photographs taken in the author's clinic. Other chapters cover methods of treatment, where much space is given to tampons and pessaries; diseases of the external organs and vagina; lacerations and fistulae; diseases of uterus; displacements and non-malignant tumors of uterus; carcinoma; pelvic inflammation; diseases of tubes; diseases of ovaries; malformations.

The proof reading has been poorly done. Some of the cuts could be greatly improved and the printing is not first class. It is to be hoped that a second edition will be more carefully prepared in regard to these points, for the author has some excellent material and knows how to present it in a logical and forceful manner. Many little details have been brought out, especially in the first half of the book, in just the manner to make the book an excellent one for the physician who sees and treats gynecological affections.

What the book lacks in scientific value it perhaps makes up in practical interest, and as a practical guide on diagnosis it is to be recommended.

Syphilis: A Treatise for Practitioners. By Edward L. Keyes, Jr., A. B., M. D., Ph. D., Lecturer on Surgery, Cornell University Medical School. Pp. 577, 69 illustrations, 7 in colors. Price, $5.00 net. D. Appleton & Co., New York, 1908.

The author of this book is the son of Dr. Edward L. Keyes, who with Van Buren wrote the well known book on genito-urinary diseases. This new work has for its basis the records of 2,500 cases, seen during the past 40 years by Van Buren, E. L. Keyes, Sr., and the author. The disease as seen in the middle and upper classes is depicted, rather than that seen in dispensary work.

A few of the points made are: the spirocheta pallida is the cause of syphilis, but much remains to be learned concerning it. Individual prophylaxis is nearly futile. The disease can not be ameliorated by cutting out the initial lesion. The danger of marital infection is very great, the chances being 12 to 1 during the first year, 5 to 2 in the second year and 1 to 4 in the third year. Marriage can be allowed only after 5 years, during the last two years of which period there have been no symptoms and no treatment. Tobacco must be avoided in the secondary stage. The

treatment is hygienic, tonic and specific. The internal use of mercury, rather than inunctions and injections is favored. If the patient continues under treatment the prognosis is good. Treatment should not be begun until the absolute diagnosis is made.

The various manifestations of the disease are treated of in separate chapters, and every phase is presented. The author's style is forceful and concise.

The illustrations are good; the press work excellent. It is a satisfactory volume and altogether the best monograph on syphilis which has yet appeared in English.

Suggestive Therapeutics, Applied Hypnotism, Psychic Science. By Henry S. Munro, Americus, Ga. Pp. 353, cloth, $3.00. C. V. Mosby Medical Book and Publishing Co., St. Louis, 1907.

The author of this book is quite widely known through the lectures and demonstrations which he has given in various parts of the country. The subject is one which interests many and many will enjoy reading what Munro has to say on the subject. Few will agree with him in many of his statements, yet there is food for thought in many of the pages.

The liberal use of bold face type has made the reading very difficult, although evidently intended to be an aid.

Reference and Dose Book. By C. Henri Leonard, A. M., M. D., Emeritus Professor of Gynecology in the Detroit College of Medicine. New and enlarged edition; 40th thousand. Cloth, limp sides, round corners, thin paper, 16mo., 145 pages; price, 75 cents. The Illustrated Medical Journal Company, Publishers, Detroit, Mich.

This is a handy little compend of doses, and contains nearly 4,000 references. The U. S. dispensatory has been followed for medium and maximum doses. The common name is given in small type, after the drug name and dose.

Numerous tables are appended, including incompatibles, obstetric information, a fee bill (New Jersey Medical Society), pronunciation of medical proper names and a therapeutic table.

This new edition is printed on thin paper and is but a quarter of an inch in thickness.

Laboratory Guide for the Modeling of the Human Bones in Clay. By Vilray Papin Blair, A. M., M. D., Associate Professor of Anatomy, Medical Department, Washington University, 1906. Published by the Co-operative Association of the Medical Department of the Washington University, St. Louis.

This little manual gives very good directions for the modeling of bones in clay. In several medical schools osteology is taught in this way, and this guide should be an excellent aid to the student.

The Blues: Its Cause and Cure. By Albert Abrams, A. M., M. D. Quarto, pp. 287, illustrated. Cloth, $1.50. E. B. Treat & Co., New York, 1908.

The preface to the third edition of this little book contains some remarkable utterances and tells the reader what he may expect in the succeeding pages of the volume. Here the author states that after an effectual massage of the liver amelioration of the symptoms of auto-intoxication and splanchnic neurasthenia occurs together with a favorable change in the consistency of the stool. Then too the appearance of an increased amount of indican in the urine after such manipulation is further evidence of the value of such a massage!

The symptoms and the cause of neurasthenia are well described. The author has had a long and varied experience with such cases and presents the subject in a lucid manner. Exception might be taken by physicians endowed with less imaginative minds, and with thorough scientific training, to the explanation of the phenomena of the symptoms of neurasthenia. However that may be, it is certain that the treatment employed by Abrams and by others would not differ much, although the explanation of the results would have a different foundation.

This book has been widely recommended to the laity by certain "health food specialists," and by some physicians who desired to impress their patients with the manner in which they would respond to treatment for this condition. Hence the necessity of repeated editions. It is safe to say that it will not enlighten the practitioner who seeks help in the treatment of troublesome cases of neurasthenia.

The Mellin's Food Method of Percentage Feeding. Pp. 179, cloth. By the Company, Boston, 1908.

This book consists of a series of tables, made from original analyses, together with formulae corresponding to practically every combination of fat, proteid and carbohydrate. There is every

reason to believe that the work is well done and therefore, the tables are very valuable for easy reference.

International Clinics. 18th series, Vol. II. Pp. 304, illustrated. J. B. Lippincott Company, Philadelphia, 1908.

This number contains 24 monographs on treatment, general medicine, surgery, gynecology, ophthalmology, dermatology, orthopedics, pediatrics and pathology.

County Society News

Calhoun.

The Battle Creek Medical Club held its last meeting for the year 1907-8, at Nichols Hospital, June 22, and elected officers as follows: Pres., A. F. Kingsley; Vice-Pres., R. M. Gubbins; Sec.-Treas., M. A. Mortensen.

During the past year which has been the second of post-graduate work in Battle Creek, we have held forty-two meetings, have followed the course outlined by the American Medical Association, and have had an average attendance of over fifteen at each meeting,—over twice the average of the first year.

Our papers have been uniformly good and well discussed, and we consider ourselves fortunate in that of the forty-two papers, we have been disappointed only once by the author not being present. That evening various ones of those present discussed different parts of the program as outlined, and we went away feeling that we had had a very profitable evening, and had lost no time due to the absence of the lecturer. The interest of the members has kept up well throughout the whole course, and all have expressed themselves as pleased with the work.

In conjunction with the post-graduate work we have had several clinical cases presented to us, of which six were of more than passing interest:

Case I—Lymphatic Leukemia—Presented by Drs. W. H. and Wilfrid Haughey. A man of sixty-two years, with marked enlargement of all lymphatic glands, liver and spleen. He has been ailing for about a year, complaining of "nose-bleed" at first, then various gastrointestinal symptoms, together with enlargement of the glands and progressive weakness. His leucocytes were 68,000 at first, but under treatment were reduced to about 18,000. The small lymphocytes have been from 70% to 80%, and the large lymphocytes about 10%. This case was reported at the annual meeting of the Michigan State Medical Society, and will be published later.

Case II—Knee for Diagnosis—Presented by Dr. W. H. Haughey. A young man of about twenty, gave no history of injury, but complained that his knee "went out" occasionally while at his work, and he had to manipulate the leg for a few minutes to get it "in," when he was all right again. The knee had a considerable lateral motion, the ligaments seemed to be somewhat relaxed, and the catch, or "going out" as he called it, came on suddenly. There was a question if it might not be dislocated, or have a loose semi-lunar cartilage.

Case III—Tetany—Presented by Drs. W. H. and Wilfrid Haughey. A boy six months old, well developed, was presented with the following history. His home was in a distant city, and about two months previously he had some spasms or convulsions which were thought at the time to be digestive, but when the case came to Drs. Haughey they thought it more serious and Dr. Wilfrid Haughey went to see the baby. From the general appearance of the child, of its spasms, and from the opisthotonus present, he diagnosed spinal meningitis. About six weeks later Dr. W. H. Haughey saw the baby and confirmed the diagnosis, but found a complication in the peculiar contractures of the hands and feet. The child was brought to Battle Creek and presented at a meeting of the Medical Club for further diagnosis. The consensus of opinion at the club was that the child had tetany, and some thought it was probably of intestinal origin, but Drs. Haughey believed it to be meningeal. The baby died about a month later without having improved at any time, the contractures of the hands and feet having persisted to the last. Recently Babonneix reported to the Paris Pediatric Society two cases of meningitis simulating tetany, and said "tetany should never be diagnosed until spinal puncture has given negative and electrical tests positive findings."

Case IV—Paralysis of Muscles of the Shoulder—Presented by Dr. T. E. Sands for diagnosis. A young man about twenty-five, a painter, gave the history of having fallen from a step-ladder about six months previously. He got up and returned to his painting for the rest of the day. In two or three days he was taken with "typhoid

fever" which a doctor in his home town "aborted" in about ten days. Soon he began to lose the use of his left shoulder. He applied to Dr. Sands for treatment about two weeks before his presentation at clinic. Upon examination we found that all the bony parts of the shoulder could be easily outlined. The head of the humerus was more prominent anteriorly than the other, and seemed to be resting on the anterior edge of the glenoid fossa. The external attachment of the clavicle was very loose and movable. There was also paralysis with wasting of several muscles: the pectoralis, major and minor, the teres minor, the deltoid and the supra- and infraspinatus. He could not raise his arm, but if the elbow was fixed he could use his forearm. The nerves supplying the paralysed muscles are the suprascapular to the supra- and infraspinatus muscles. This nerve sends a twig to the shoulder joint, and also passes through the suprascapular notch. Might it not have been enclosed in a callous? The circumflex nerve supplies the deltoid and teres minor. This nerve passes around the humerus just beneath the glenoid fossa, and also supplies the shoulder joint. This nerve as well as the suprascapular is often injured by falls, blows, etc., on the shoulder, as also by fractures and dislocations. It could be injured by pressure of the head of the humerus, or by a rim fracture of the glenoid fossa. The external anterior thoracic passes through the costo-corocoid membrane to supply the pectoralis major. The inner anterior thoracic follows essentially the same course and supplies the pectoralis minor, from which it passes to the major. When passive motion was made the scapula moved also, as we supposed, from a locking of the tuberosities of the humerus. Some of us thought he had a subluxation of the humerus, a condition described at length by Vale in the Annals of Surgery for May, 1908, which came a few days after the patient was presented at clinic. Vale discusses the condition and says the pathology has never been worked out. There has been a considerable academic discussion for and against the idea proposed by Snodden in 1839 when he reported an autopsy on such a case where he found a dislocation of the long head of the biceps. Vale unfortunately was not allowed to operate on his case and confirm or controvert Snodden's theory. Further examination of our case was also denied, for the patient returned to his home, was taken with appendicitis and died. Thus another chance to prove or disprove an interesting question was lost.

Case V—Filaria Sanguinis Hominis—Samples of blood demonstrated by Drs. A. W. Nelson, and C. E. Stewart. The patient, a negro, but recently "was running wild in the woods of Africa." He is now doing light work, enough to earn his living. The filaria was beautifully shown in its active condition.

Case VI—Disseminated Sclerosis—Presented by Dr. W. H. Riley. Patient is a man of about forty-five. Three years ago he had a severe attack of la grippe, and since that time has been treated at various places for various obscure conditions. He is very "nervous," his hands tremble, and he is hardly able to write his name, but when he does it is a characteristic scrawl. He cannot stand alone, and makes all movements with an extreme incoordination. He speaks with a scanning rhythm.

WILFRID HAUGHEY, Retiring President.

Houghton.

The August meeting of the Houghton County Medical Society was held at the Arlington Hotel in Calumet. It was the largest meeting of medical men held in Houghton county in a very long time. This condition was probably due to the fact that they wanted to do honor to Dr. A. I. Lawbaugh, of Tamarack, who had just been elected president of the Michigan State Medical Society. There were twenty doctors from Calumet and ten from Portage Lake at the meeting.

The actual business of the meeting was to hear a paper by Dr. Abrams on "Asepsis in Obstetrics." This was a retrospective paper dealing with old surgical methods in childbirth. Drs. Simonson and Scallon lead the discussion on the paper and discoursed on the more modern methods.

Following the business meeting Dr. Scott, president of the society, took occasion to advise the members of the honor which had been paid the society in the selection of Dr. Lawbaugh to head the state society. He expressed the appreciation of the society for the honor and was vigorously applauded. Dr. Lawbaugh responded to the president's address and then the meeting resolved itself into an informal reception for the veteran physician who had just been so signally honored.

Dr. R. B. Harkness, of Houghon, and Dr. W. H. Matchette, of Hancock, the committee ap-

pointed to draft resolutions concerning contract practice, presented the following, which will receive the attention of the members of the society at the next monthly meeting:

WHEREAS, It is the belief of this society that practicing for Benevolent and Insurance Societies by any members of the profession for a compensation which is manifestly unfair and absurdly small, is inimicable to the best interests of the whole profession;

Be it resolved, That after January 1, 1909, all members of this society refrain from such practice where the monthly stipend is less than $1.00 for married men and $.50 for single men.

Be it further resolved, That this society use every honorable means whereby all members of the profession will become members of this society, in order to advance interest and harmony, and uphold the dignity of our profession in Houghton County."

W. D. WHITTEN, Sec'y.

Kent.

The Work of the Milk Commission.—A few years ago the Walker-Gordon Company withdrew from Grand Rapids. Since then the city has been without a dairy where certified milk could be obtained. This matter was taken up by our Medical Society during the next winter and a Milk Commission was appointed which was empowered to obtain certified milk for this city. This Commission after a considerable amount of correspondence obtained a form of contract that was to be made with various dairymen and upon the fulfilling of this contract the Milk Commission furnished these dairymen with the Kent County Medical Society's Certification Label. This contract embodies too many articles to permit our giving it in full, but, in brief, it prescribes the care of the cattle, method of milking, stables, milk houses, handling of the milk, bacteriological and veterinary examinations, etc. The Commission, after a number of interviews with the various leading dairymen of this city, finally made a contract with one of them. In order to furnish the milk and handle it as prescribed in the contract it was necessary for this dairyman to practically rebuild his whole plant. This was done and the following is a brief description of his stables and milk house:

The dairy barn consists of an addition to the regular barn of 28x44 ft., with eight foot posts, no loft, four windows, 3x5 ft., on both sides, and two of the same size on the third side. Fifteen feet of the north end is partitioned off for a milking room, tightly sealed and white washed; it has a cement floor with gutter and trap leading to the sewer. It is equipped with the King system of ventilation.

The stable proper has two rows of stalls facing each other, all with cement floors. The barn is sided with 8-inch drop siding and sealed inside with ¾-inch matched boards and paper. The milk house and adjacent supply and boiler rooms stand about 100 feet from the barn. They are built of cement blocks and have a cement floor with sewer connection. The boiler room is equipped with an Ideal boiler. The milk room contains a Star cooler, galvanized iron tank, part of which is used as a steam chest. The supply room adjacent contains apparatus for bacterial counts, supplies for the milk pails, caps, bottles, ice-box, etc.

All apparatus, including pans, strainers, absorbent cotton, bottles, pails, etc., about the milk room are thoroughly sterilized each day by being exposed from one-half to three-quarters of an hour to live steam.

The herd at present consists of nineteen cows, in which the Jersey blood prevails. The effort is made to keep the buildings and cows absolutely clean. To make doubly sure of this the cows are carefully groomed, then wiped with dampened cloths. The milk room is thoroughly sprayed with water and the cows are led into it in lots of four, carefully sprayed with water, given a dampened grain ration and milked. Great care is taken that the operators wear clean clothes and have thoroughly cleaned hands. Before commencing to milk, the operator oils his hands with sterile vaseline, wipes the udder with the same for the purpose of preventing particles of the epidermis and hairs from dropping into the pails. The Gurler pail is used. The milk pail is never opened in the milk room or by the operators of the milking room. The milk is taken in the Gurler pail to the milk house, which has previously been sprayed; here an attendant receives the milk at the door, wipes the pail with a sterile cloth, and empties it in a sterile pan that is covered with a sterile cloth. When four cows' milk has been emptied, the attendant commences to bottle. He bottles and caps it warm and immediately immerses it in ice water and keeps it there until it is packed in ice and in the wagon for the delivery.

The bacteriological count for the month of July, made by the Commission's bacteriologist, is as follows:

Count 1—Bacteria per c. c., 10000.
Count 2—Bacteria per c. c., 1100.
Count 3—Bacteria per c. c., 3500.
Count 4—Bacteria per c. c., 4800.
Count 5—Bacteria per c. c., 1200.
Count 6—Bacteria per c. c., 2800.

It is interesting to note that in connection with this count, this dairyman who used more than ordinary care in the handling of his milk, had in the time previous to his commencing the above described technic a bacteriological count of 59,000 to 63,000 per c. c. The bacteriological examination is made bi-weekly by the Commission's bacteriologists who call at a time unknown to the dairyman. The cows are subjected to an examination once a month by the Commission's veterinary surgeon. The tuberculin test is made once a year and oftener if necessary. This dairyman sent one of his sons to Lansing, where he took a special course in the Agricultural College in this line. During the recent hot weather, a bottle of this certified milk was kept off ice for a period of three days and was still found to be sweet at the end of that time.

This certified milk has now been furnished for six weeks, the first day's sale was four quarts, while at the end of six weeks the daily sale is forty quarts. The price per quart is ten cents. In closing I might say that the demand is greater than the supply. However, the dairy is being enlarged as rapidly as possible and by another season the supply will be ample.

F. C. WARNSHUIS, *Sec'y.*

O. M., C. O., R. O.

The regular meeting of the O. M., C. O., R. O. County Medical Society, held in Grayling, August 19, 1908, marked a point in its history long to be remembered.

The good fellowship and kindly feeling manifest on every hand, the sincere and ardent manner in which every point of work was taken up was looked upon with pride and satisfaction by those who have worked so persistently and energetically for this society's maintenance and advancement.

The task of organizing and maintaining a medical society where physicians are so far apart and the jurisdiction covering so large a territory has been no small task and at times the gathering clouds of defeat have taken on a threatening form, menacing the society's prosperity, if not its existence. But today through the ardent work of its officials and active members it is safely sailing on the high seas of prosperity, its meetings are looked forward to with the keenest interest both from social and scientific standpoints.

The meeting of August 19, held at Grayling, was full of interest from start to finish. The afternoon was spent in social enjoyment, commencing with an automobile trip to Portage Lake, where the society was entertained by Messrs. Hal Davis and Frank Powell, who gave the visitors a cruise around the lake in their large yacht. The trip was thoroughly enjoyed by every one and furnished many incidents of pleasure and excitement.

Returning to Grayling in the evening, an excellent dinner was served, to which each and every one present did ample justice.

At 7:30 the society met in Dr. Insley's office where Dr. Angus McLean, of Detroit, held a clinic, which was exceedingly interesting and instructive, after which the society adjourned to the club rooms, where the regular routine of business was taken up and disposed of. Dr. McLean then addressed the society on that very important subject, "Gall Stones and Enlarged Pancreas." Dr. McLean entered into a lengthy discussion of its pathological conditions, its differential diagnosis relative to other pathological conditions of the hepatic system, illustrating by various charts and drawings the various conditions which this dread malady assumes; to a nicety which can only be appreciated and comprehended, by being seen and heard. After the close of the meeting the society was entertained at the home of Dr. and Mrs. Insley, where a social hour was spent and an elegant luncheon served, which brought to a close one of the most successful and instructive meetings in the history of this society.

C. C. CURNALIA.

News

President A. I. Lawbaugh of Calumet spent three weeks on the St. Lawrence River during August.

The 34th annual meeting of the Mississippi Valley Medical Association will be held in Louisville, Ky., October 13, 14, 15, 1908, under the presidency of Dr. Arthur R. Elliott, of Chicago.

The address in medicine will be delivered by Dr. George Dock, professor of medicine in Tulane University, New Orleans; and the address in surgery by Dr. Arthur Dean Bevan, professor of surgery in Rush Medical College, Chicago. The mere mention of these names is enough of a warrant that this feature of the programme will be in every way first class.

The local committee of arrangements in Louisville has selected the Seedbach Hotel as headquarters, the general sessions and the section meetings being held in the hotel's large auditoriums.

One of the features of the entertainment projected is a smoker in the famous Rathskeller of the hotel—the finest of its kind.

The McDowell button, so much admired at the 1897 meeting in Louisville, will be reproduced in bronze for this meeting.

The health plank in the Republican national platform reads as follows: "Public Health.—We commend the efforts designed to secure greater efficiency in the national public health agencies, and favor such legislation as will effect this purpose."

The Democratic plank: "We advocate the organization of all existing national public health agencies into a national bureau of public health with such power over sanitary conditions connected with factories, mines, tenements, child labor and other such subjects as are properly within the jurisdiction of the federal government and do not interfere with the power of the states controlling public health agencies.

There are only eleven honorary members of the American Medical Association. The list with the year elected, is as follows: Prof. O. Haab, Zurich, Switzerland, elected 1902; Prof. A. Maitland Ramsay, Glasgow, Scotland, 1904; Prof. A. Logan Turner, Edinburgh, Scotland, 1904; Prof. J. Hirschberg, Berlin, 1905; Prof. A. von Rosthorn, Heidelberg, Germany, 1906; Prof. F. Trendelenburg, Leipsic, Germany, 1906; Prof. L. Killian, Freiburg, Germany, 1907; Prof. Carl Hess, Wurzburg, Germany, 1907; Prof. Edward F. Schafer, Edinburgh, Scotland, 1908; Prof. August Martin, Berlin, Germany, 1908, and Prof. E. Treacher Collins, London, 1908.

Several recent graduates of the University of Michigan have accepted positions with the mining companies in the Northern Peninsula. Drs. E. W. Dales and J. D. McKinnon are with the Calumet and Hecla; Dr. G. A. Bulson is with the Copper Range Consolidated, as is Dr. W. W. Pascoe; Dr. C. E. McKinnis is with Dr. E. T. Abrams at Dollar Bay.

Houghton County Medical Society has 60 members, the largest number in its history.

The following are new members of the American Medical Association for the month of July: Michigan—B. L. Bryant, Detroit; A. E. Greene, Leslie; Christian Iverson, Kalamazoo; W. J. Marks, Jackson; J. C. Maxwell, Paw Paw; C. W. Merritt, St. Joseph; W. F. Morse, Saginaw; Anna Odell, Detroit; B. W. Pasternacki, Detroit; J. H. Sanderson, Detroit; Jos. Schulte, Detroit; J. D. Stewart, Hartford; R. S. Taylor, Detroit.

A new monthly bulletin has been inaugurated by the American School Hygiene Association. It is called "School Hygiene" and is published at 48 Hereford street, Boston.

During July typhoid was reported to the State Board of Health as being present in 68 localities, being 19 localities more than in June. The disease was somewhat less prevalent than in July of former years.

Statistics, compiled in past years, relative to the connection between the height of the water in wells and the prevalence of typhoid fever show that a considerable increase in the prevalence of typhoid fever may be expected to follow a period in which the ground water is unusually low, and, for this reason, a considerable increase over the usual prevalence of typhoid fever may be expected to follow the recent excessively dry period which was quite general throughout the state. Where the water supplies are obtained from shallow wells, or from some other source which is not above suspicion, the boiling of the drinking water during the next three or four months would be a wise precaution and should be recommended by local health officials. Attention should also be directed to the danger of putting ice, which is obtained from streams, lakes and rivers, into articles of food and drink, and to the necessity for screening articles of food and drink against the common house fly, together with the use of a liberal amount of quicklime, chloride of lime, or solution of copperas (sulphate of iron).—Public Health, July, 1908.

In the Alabama legislature there is an enactment pending requiring all applicants for marriage licenses to present certificates from reputable physicians as to their physical condition.

Dr. R. R. Smith, of Grand Rapids, has returned from Europe.

Dr. C. B. Burr, chairman of the Council, is still absent in Europe.

Dr. Leroy W. Childs, of Painsdale, for the past year on the medical staff of the Copper Range Consolidated Mining Company, left August 1st, to locate in Atlanta, Ga., where he will be connected with one of the medical schools of the city.

Dr. H. J. Jones, formerly assistant at Baltic, will succeed Dr. Childs at Painsdale.

Dr. John H. Carstens, Detroit, announces his candidacy for the mayoralty of the city on the basis of direct appeal to the people. His candidacy will be free from promises, pledges and politicians.

Dr. T. M. Koon, Grand Rapids, has returned from a year spent in Europe.

Dr. D. Emmet Welsh is the new health officer of Grand Rapids.

The new officers of the Wayne County Medical Society were installed at the second meeting in September. They are: President, Dr. W. P. Manton; vice-president, Dr. A. H. Bigg; secretary-treasurer, Dr. G. H. McFall.

Dr. H. Grube, of Coldwater, has been appointed chief surgeon of Soldiers' Home at Grand Rapids.

Recent additions to the state membership are: H. H. Runonavarro, Calumet; W. J. Hanna, Kingston; T. D. Givan, Three Rivers; F. A. Pratt, Centerville; W. E. Doran, Colon; J. E. Elliott, Detroit.

Marriages

Murray D. Cowie, M. D., Ann Arbor, to Anna Marion Cook, M. D., of Evansville, Indiana, June 13.

John C. Dodds, M. D., to Miss Jean B. Gretter, both of Detroit, July 8, 1908.

Mat K. Guinan, M. D., Detroit, to Miss Irene Callow, of Pontiac, recently.

Ernest M. Ling, M. D., Laporte, to Miss Ella Maude Moon, Detroit, June 30.

Deaths

Albert Hartsuff, M. D., a brigadier-general of the United States Army, retired, died suddenly from heart disease, at his home in Detroit, June 22, aged 71.

Abel M. Crawford, M. D., one of the oldest physicians in Jackson, died recently at his home, from the result of a fractured arm, aged 80.

John Hamilton, M. D., of Pompeii, one of the oldest physicians in southern Gratiot county, died in July, after an illness of ten days, aged 77.

Bernard Hesse, M. D., for nearly fifty years a respected German practitioner of Saginaw, died suddenly, July 12, in his office, aged 74.

Dr. Simeon Belknap, of Niles, died suddenly of heart disease on July 14, aged 71 years. He was for many years United States pension examiner and at the time of his death was a surgeon for the Big Four and Michigan Central railroads. He was a vice-president of the State Society in 1888.

THE INTERNATIONAL CONGRESS ON TUBERCULOSIS.

The section meetings in connection with the Congress will take place the week beginning September 28th, and the exhibition will continue for the entire three weeks, from September 21 to October 12th.

The program for the week includes two plenary sessions, one on Monday, September 28, at which it is hoped that President Roosevelt will preside; and the other (probably) on Saturday, October 3. In accepting the presidency of the Congress, President Roosevelt promised that if it were impossible for him to preside at the general sessions he would delegate Secretary Cortelyou to represent him. Each of the seven sections into which the Congress is divided will hold two sessions daily, except on the days on which the plenary sessions will take place. The provisional programs for the sections have been completed and copies may be obtained by writing to the Secretary of the Congress, Dr. John S. Fulton, 714 Colorado Building, Washington, D. C.

Progress of Medical Science

MEDICINE.

Conducted by

T. B. COOLEY, M. D.

Snake Poisoning in the United States.—WILLSON has done a very decided service in collecting the facts concerning the venomous snakes of America.

Classification.—There are only two of the family coluber in this country sufficiently poisonous to be dangerous to man. These are the two species of coral snakes found in the southwest, and fortunately their habits are such that bites from them are of rare occurrence. The true vipers are wholly confined to the old world. Of the pit vipers—so called because of the pit or fossa on the side of the head between the nostril and the eye—we have three genera, of which two, crotalus and sistrurus, are rattlesnakes, while ancistrodon is represented by but two species, the copperhead and the water mocassin. The copperhead is confined to the east and south, and the water mocassin to the south, so that in the north and west we have only the various species of rattlesnake, of which those belonging to the genus crotalus are more venomous than the species of sistrurus.

The total number of cases of snake bite collected by Willson is 740, of which 440 were found in the literature, the remainder being obtained from various private sources. Of 566 in which the nature of the snake was known, 408 were rattlesnake bites, 97 copperhead, 53 water mocassin, 8 coral snake bites. The figure of 17.1% for copperhead cases is probably too low, as the snake is widely distributed, and its bite usually so little dangerous as not to come to a physician's attention. On the other hand, the rate of 1.4% for coral snake bites is undoubtedly relatively very high.

Space here forbids discussion of the toxins and their relative proportions in the venoms of the different species.

The mortality in Willson's whole series was 10.7%, which he considers to represent very fairly actual conditions. In 624 cases where the species was more or less definitely known, the mortality in rattlesnake bites of all species was 11.7%, while in those known to be from rattlesnakes of the genus crotalus, it was 15.7%. From copperhead bites mortality was 5.1%, from water mocassin bites 16.9%, and from coral snakes 75%. Prognosis in general depends on (1) the amount and toxic quality of the venom injected; (2) the location and character of the injection; (3) the age, sex and resisting power of the patient. The amount of venom injected by snakes of the same species varies with their size, the fulness of the poison gland, and the completeness of the bite. Bites on the head and trunk are much more dangerous than those on the extremities, and those on the upper extremity more dangerous than those on the lower. Fatal results are naturally relatively more frequent in children than in adults. Data regarding sex are not clear, but it seems rational to suppose that the death rate would be lower in males than in females.

Treatment is divided into local and general. Local treatment has for its object the removal of the venom or its destruction in the tissues. Amputation of an extremity or a major portion of it, in view of the low average mortality, would hardly be considered, unless it were definitely known that a fatal dose of venom had been injected. Amputation of a finger or toe would be justified where circumstances rendered prognosis doubtful. Free excision early is recommended when possible; when it is not possible, free dissection. Suction probably removes little venom, but may be of some value. Permanganate is probably the best drug to destroy venom, and should be used as a local injection. When the case is seen early several ligatures may be applied between the bite and the trunk, aiming to cut off all circulation. When edema and swelling are already present, ligatures should not be tight, but merely delay the return of venous blood and lymph. The great danger of infection and gangrene necessitates great care in all surgical procedures. General treatment should encourage elimination and keep up blood pressure. Strychnine and ammonia have been proved to be useless; alcohol worse than useless. Adrenalin theoretically should be of value, and has seemed so in practice. Infusion of physiological salt solution has proved decidedly valuable. The bowels and kidneys should be kept functioning, and water given freely by mouth. Artificial respiration may be of use in ancistrodon poisoning, but not in crotaline poisoning. There are not now, nor are there likely to be, specific antisera of value in poisoning by these snakes.—*Arch. of Int. Med.*, Vol. I, p. 516.

GYNECOLOGY AND OBSTETRICS.

Conducted by

B. R. SCHENCK, M. D.

Relation of Weight of the Placenta to That of the Child.—Manton of Detroit has an interesting paper in the Buffalo Medical Journal on this subject. The paper was read before the Wayne County Society last April.

Manton says:

Coming now to the influence of multiparity on the weight of the placenta and child, we find that the weight of the average offspring, regardless of sex, of primiparous mothers is seven pounds, and that of the placenta is eighteen ounces and one-half, a slight diminution in the normal average weight of both.

In the instance of the multiparous mother the converse obtains; the weight of the child is augmented to 7 pounds and 4⅜ ounces, while the placenta remains at the average weight.

Sex appears to exert some influence as regards the weight of the child, but has little effect upon that of the placenta. Thus the average weight of the male child is 7 pounds 4 ounces, that of the female 7 pounds 1 ounce. The respective placentas weigh 12 2-3 ounces and 18 2-3+ounces.

It is interesting to note that among the 400 cases the largest child, a male, weighed 10 pounds and 8 ounces (placental weight 28 ounces; multiparous mother); the smallest child, a female, 3 pounds (placental weight 16 ounces; mother not stated). The largest placenta weighed 40 ounces (male child, 8 pounds 11 ounces; primiparous mother); the smallest placenta weighed 6 ounces (female child, 6 pounds 12 ounces; primiparous mother).

Conclusions: The figures above presented are interesting on many accounts. They at least indicate that, as a rule, the development of the placenta goes forward with that of the child, and its size may be taken ordinarily as an index to the weight development of the latter. It is further shown that while there may be individual variations in any given number of cases, these will not be sufficiently numerous to greatly influence the normal weight ratio between child and placenta, that is, 6+o1.—*Buffalo Medical Journal*, May, 1908.

Hematuria in Pregnancy.—BALLOCH states that the so-called idiopathic hematuria is now ascribed either to vasomotor changes or to chronic nephritis; the latter theory is gaining ground. Rovsing and Cabot believe that movable kidneys frequently give rise to hemorrhage. The author's case was that of a woman of thirty-one years. In her sixth pregnancy the hematuria again showed and never again disappeared, although varying in intensity, and still persisted when seen seven months after the birth of the child. The feet have been swollen since the first pregnancy; there were no symptoms of renal colic. Physical examination was negative except soreness over the left kidney region. The urine contained blood, but no casts; cystoscopy showed bloody urine escaping from the left ureter. As medical measures had failed, the left kidney was removed. A glomerulo-nephritis and increase of the interstitial connective tissue between the pyramids was found in the small kidney. In a subsequent pregnancy blood again appeared in the urine for a short time. Since then she has been well. This is the author's second case in which pregnancy occurred in patients with one kidney. Probably the increased or faulty metabolism during pregnancy proved too much for the single (nephritic) kidney and therefore hemorrhage recurred. In a similar case Ballock would now perform either decapsulation or nephrotomy, which has been found effective, and thus preserve all the functionating kidney tissue possible.—*Surgery, Gyn. and Ob.*, March, 1908.

Electricity in the Treatment of Cancer.—LEOPOLD recently went to Marseilles to investigate the treatment of cancer by the electric spark, a method advocated by Hart and reported by him at the Electric Congress in Milan in 1906. LEOPOLD says that the written descriptions of the method give very little idea of the technic which Hart has worked out in the course of several years. He regards the fulguration as merely a preliminary or adjuvant to the knife. The improvement realized even in advanced cases is remarkable, relieving the patient of hemorrhage, pains and ichorous discharge for a time at least. Disseminated nodules of recurring mammary carcinoma are fulgurated each for five or ten minutes. This softens the nodules and prepares them for excision, after which he fulgurates for twenty or thirty minutes. The fulguration does not lead to the formation of an eschar; the tissue merely turns brownish and edematous, with free exudation of lymph.—*Zent. f. Gyn.*, June 4, 1908.

PATHOLOGY AND BACTERIOLOGY.

Conducted by

C. S. OAKMAN, M. D.

The Bacteriology of the Puerperal Uterus.—NICHOLSON and EVANS of Philadelphia tabulate 67 cases in which they made bacterial investigations after parturition. These included 49 cases that were normal obstetrically, 11 cases that were in some way abnormal obstetrically, and 7 cases which showed intercurrent disease, gonorrhea, or sepsis. The puerperium was divided by them into three periods: the first, from delivery to the third day; the second, from fourth to seventh day; the third, from eighth to thirteenth day. Cultures were taken in these three periods, and the authors lay much stress upon the technique, owing to the ease of contamination by the vaginal and cervical fluids; they used a specially devised curved cervical speculum, with a cap, hinged in such a manner that a collecting tube may be introduced into the uterus with absolutely no possibility of being fouled by external secretions. The culture methods employed were stroke plates of agar-agar, glycerin agar, and serum agar; bouillon tubes, litmus milk tubes for anaerobic cultures by Wright's method, and glucose agar. In addition, cover-slip preparations were made, two stained by Loeffler's stain and two by Gram's. They specify that a "normal" obstetrical case, as regarded by them, is one in which there has been no instrumental interference in labor, no introduction of hands into the uterus, no placing of gauze in uterus or vagina, no douches given, no retention of secundines, and no alteration of the lochia.

The authors recapitulate the studies of Doederlein in 1897, of Stolz, and the contemporary study of Little. As to the value of the intra-uterine culture as an aid to diagnosis, they state that it should not be neglected in the routine study of infected cases, where bacteriological work is possible. On the other hand, they do not believe that it is a sure means of diagnosticating the presence or absence of infection, on account of the many sources of error and conditions which are not yet understood. Considered together with the studies upon the bacteriology of the blood, they assert that when blood and intra-uterine cultures are negative, a high temperature is due to some intercurrent affection; if the intra-uterine culture is positive, but the blood culture negative, the infection may be considered local; if the intra-uterine culture is negative and the blood positive, the case may be considered a general infection, in which the endometrium was sterile from the beginning, or has become so after a primary local infection.

From their studies, the authors conclude that the uterine lochia is sterile in normal cases throughout the puerperium; streptococci are never present in the cavity of the uterus without causing symptoms; occasionally non-pathogenic germs may be found in afebrile cases, but probably their detection is due to contamination during extraction of the lochia or during obstetric manipulation; ascendance of the gonococcus is comparatively rare, though its frequent presence below would give reason to expect otherwise; infection of the endometrium is a constant danger in making cultures early in the puerperium; cultural investigations of the lochia are of distinct importance as a subsidiary means of diagnosing septic infections post-partum; in employing this aid to diagnosis, a technique should be adopted which will prevent contamination during removal of the lochia and during transferrence to culture media.—*American Journal of the Med. Sciences,* August, 1908.

Anatomy and Pathology of the Carotid Gland.—GOMEZ examined fifty cases postmortem as material for his report. The only pathological changes ever described were neoplastic; the increasing frequency of such reports makes it probable that they have often been overlooked or wrongly diagnosed. The etiology is unknown. Tumors of the carotid gland occur with greatest frequency in adolescent and adult stages. They are usually oval, and varying in size up to the size of a goose egg; they are usually hard and elastic, of a reddish gray to gray or brown color; the capsule is fibrous and sends septa into the tumor; vascularity is marked. They are usually adherent to the carotid artery. Histologically they most resemble endothelioma, and the cells are cubical, spindle, triangular, or polyhedral in shape; the connective tissue septa are prone to undergo hyaline degeneration. These tumors are at first benign, but later may grow rapidly, with tendency to adhere closely to surrounding structures. There may be enlargement of neighboring lymph nodes. Recurrence has sometimes occurred after removal.—*American Journal of Medical Sciences,* July, 1908.

PHARMACOLOGY AND THERAPEUTICS

Conducted by

H. A. FREUND, M. D.

Mercuric Bromide in Syphilis.—DALIMIER finds, after several trials, that the best solution for use as an intra-muscular injection in syphilis is:—

℞. Hydrarg. Bromidi, gr. viij.
Sodii Bromidi, gr. vj.
Aq. destill. steril., gr 3j.
Misce. Fiat inject.

This injection is painless and effective in action.—*Revue de Therapeutique.*

Tincture of Eucalyptus in Hemorrhage.—A. TODD-WHITE calls attention to the value of this remedy in cases of hemorrhage. He was sent for to see a patient who had a tooth extracted three days before, and had had persistent hemorrhage from the socket. The usual remedies were applied without avail. On the third day tincture of eucalyptus was applied and the hemorrhage almost immediately ceased. The next day the patient's brother cut his foot and the hemorrhage was profuse. Having some of the eucalyptus left he applied it to the wound, and the hemorrhage immediately stopped. Later the author was asked to see a case in which persistent hemorrage followed the application of a leech to the gum. The usual remedies—alum, tr. ferri perchlon, ice, etc.—were tried unsuccessfully for twelve hours. He applied tincture of eucalyptus, and the hemorrage ceased within five minutes and did not return. It is most useful on lint after circumcision or other minor operations. He is of opinion that the internal use of calcium chloride combined with the external application of tincture of eucalyptus will stop any form of hemorrage.—*British Medical Journal,* July, 1908.

The Purgation Properties of Phenolphthalein—BERTHOUMEAU and DAGUIN discuss the usefulness of phenolphthalein as a purgative. It has grown greatly in importance during the past few years and its harmlessness as well as reliability make it valuable in all patients. It augments by direct contact the contractility of the intestine and increases the secretion. A dose of two grs. will purge, whereas half that amount for an adult will act as a laxative without producing abdominal distress. In children in doses according to the age, it acts very satisfactorily and is inoffensive.—*La Presse Medical,* June, 1908.

Some Cases Other Than Obstetrical in which Hypodermatic Injections of Ergot have been of great service.—ROBINSON reports three cases in which he has successfully employed ergot hypodermically. In the first a male aged fifty-six had a severe case of acne rosacea. Two injections brought a marked change, while six given on alternate days cured the condition.

The second, a female aged sixty, weighing about two hundred pounds, had a long standing case of varicose veins. Seven injections on alternate days greatly improved the circulation.

The third case in a nervous individual, addicted to cigarette smoking, was supposed by the author to be suffering from poor circulation. The good effects from injections of ergot were attributed to its effects on the circulatory apparatus.

He sums up the action of ergot as follows: (1) That its direct and specific effect is the contraction of unstriated muscular fiber, or other involuntary tissue. (2) That it does not markedly contract that which is normal in tone; but (3) That it is prompt and striking in such effect in proportion to the recency of occurrence of the atonic state in such fiber. (5) That its widest field of usefulness is its application to the muscular coat, or other contractile tissue, of weak and relaxed blood-vessels. (6) That it there tends to equalize vascular tension; to distribute the blood equably throughout the body; to restore or to promote functional activity of glands and organs generally, and vasomotor centers particularly. (7) That it is useful to restore tone in the unstriped fiber of the walls of the hollow viscera, stomach, bowels, bladder, uterus. (8) That the prevalent, popular notion, existing even in the medical profession, that it is a dangerous drug, and likely to produce ergotism, is unfounded as regards the modern pharmacopial preparations, at least as regards such as he used during the past thirty-four years. (9) That its local action upon the stomach is often offensive, especially if full doses are given; that its absorption from the stomach is uncertain, both as to promptness and degree; and therefore, (10) That its administration should be limited as much as possible to hypodermic injection, which assures immediate effects, admits of exact regulation of dose, and avoids nausea and other ill effects of its administration per os."—*Med. Record,* July 29, 1908.

PEDIATRICS

Conducted by

R. S. ROWLAND, M. D.

Some Advances in Infant Feeding.—LAMB's criticisms of existing methods and suggestions are of special interest when taken in connection with the article on the same subject by Cooley in the June issue of this Journal.

LAMB believes that the failures have been due largely to the fact that we have been dealing in percentages and not in actual amounts of food (i. e. energy quotients); to false ideas of fat and proteid digestibility; and to too short intervals between feedings. He further remarks that the percentage method is very complicated both for the physician and the mother, and that if our present formulae are followed there is great danger of over-feeding.

The writer offers the following method, which he thinks avoids extremes, is easily carried out, and will be found applicable in most cases: Simple dilution of whole milk with water until it can be digested by the infant, and the addition of carbohydrate to make up the energy quotient to the required number of calories. Starting with a dilution of two parts water and one part milk, increase the proportion of milk until the infant can digest it, aiming to reach one half milk by the middle of the second month. During the second and third month increase the percentage of milk still further, so that by the fourth month two parts milk and one part water are given. Keep on this two-thirds dilution until the eighth month, increasing the amount fed, but not the strength of the mixture. From the eighth month gradually increase the percentage of milk, so that at one year the child takes whole milk.

It is seldom necessary to start with a greater dilution, but it may be advisable in some cases to feed whole milk by the eighth month. The stools and the weight curve are the sign posts to be followed. The carbohydrate to be added is preferably a dextrin-maltose mixture, because it possesses all the good qualities of starch, requires but little digestion and can be given in large amounts without danger.

In the second and third months a small amount of properly prepared starch, in the form of wheat flour, barley or oat meal should be added; this amount to be gradually increased each month so that when the time arrives for the child to take a mixed diet, its starch digesting power will be developed.

The feedings should be three hours apart during the first three months, and after the fourth month four hours apart. The volume depends upon the weight of the child and should be respectively one-sixth, one-seventh, one-eighth, and one-ninth of the body weight in the four quarters of the first year. It should never exceed 36 to 38 ounces.

During the first three months, the food should have a value of 45 calories per pound of body weight. During the second three months 40 to 45 calories per pound and during the second half year the fuel value should gradually decrease, so that at 12 months it is 32 to 35 calories per pound of body weight.

LAMB draws the following conclusions:

(1) The most important thing in infant feeding is to know the exact amount of food the child receives in 24 hours. The only way to do this is to calculate energy quotients.

(2) The percentage method is uncertain, complicated and unscientific.

(3) Amounts, not percentages, should be fed.

(4) Over-feeding is one of the commonest causes of nutritional disturbances in children and is a distinct clinical entity.

(5) Fat in cow's milk is the element to be feared.

(6) Fat produces constipation, proteids never do.

(7) The curds in the stools are not proteid, but calcium soaps, fatty acids, or fats.

(8) Casein is not difficult to digest, does not produce digestive disturbances and does not undergo putrefactive changes in the alimentary canal.

(9) The new-born infant can digest starch.

(10) Dextrine and starches are the most valuable adjuncts to milk feeding.

(11) The volume of the food should depend upon the weight of the child and should never be over 36 to 38 ounces.

(12) The intervals between feedings should never be less than three hours during the first three months and after three months four hours. —*Arch. of Pediatrics*, June, 1908.

DERMATOLOGY AND SYPHILIS.

Conducted by

A. P. BIDDLE, M. D.

Nutritive and Neurotic Disturbances of the Hair.—Certain diseased changes in the hair have for some time been recognized as due to the action of grosser parasitic micro-organisms, in other conditions the disturbance in the nutrition of the hair is believed to be caused by the presence of smaller organisms, as cocci, and some have claimed a parasitic form of alopecia areata; in others, the loss of hair is due to pus organisms. But there is a much larger and very important group of disturbances of the hair which are caused by derangement of nutrition and innervation going on within the follicle, which it is well to consider from a broad point of view.

When the sexual functions cease in the female, at the menopause, there is considerable tendency to growth of hair on the face; many observers have also noticed the proneness to superfluous hair on the face of females much earlier in life, in connection with sexual disturbances from ovarian or uterine disease. Furthermore, when there is gross disturbance of the nervous system and mental faculties, as in insanity, there is a tendency to growth of hair on the face of females, as many have testified. All these facts demonstrate that the development of larger hairs from lanugo hairs depends on causes which may at one time or another come into action in the system.

Acquired alopecia seems to be a more or less normal or natural accompaniment of advancing years, with its failure in nutrition and nerve energy.

Premature alopecia, which may occur at any time of life, is known to have a definite causation in certain cases. Thus, after erysipelas and fevers, notably after typhoid, there is often a great shedding of the hair, which regrows more or less quickly and with greater or less vigor, according to the recuperative powers of the system.

The hair follicle is but an involution of the epithelial covering of the skin, penetrating the corium, at the bottom of which the hair papilla rises from the corium, well supplied with nerves and blood vessels which furnish nutriment to the growing hair. The lowest part of the hair is large, soft and succulent, and it is only in the upper portion of the follicle and in the completed hair, as seen externally, that there is any tensile strength. The newly formed, soft and succulent cells in the deepest portion of the hair follicles are gradually changed in character, as the hair is pushed forward. The component cells, which were originally cylindrical and polyhedral in shape, become altered into spindle-shaped, nucleated cells, almost fibers, until, in the completed hair, they are firmly fused together into a firm, dense structure of considerable strength.

When there has been an agency or condition disturbing the nutrition of the hair, the lower cells fail to undergo the proper transformation just described, and, as they are pushed out by newly forced cells below, the portion of the hair within the follicle separates and the long hair is shed. In the meantime, however, unless there has been too great a derangement of nutritive or nerve elements, the soft and succulent cells are still being produced around the papilla, and are pushed forward; but if they are yet unable to undergo a normal change into the fibrous structure of the complete hair there will be alopecia of greater or less degree. On close inspection we often find open follicles choked with imperfectly developed hair cells, and it only requires a resumption of the proper functions of the follicles to again produce hairs of proper size and length.

In course of time, however, as seen in the senile scalp, there may become a permanent alteration in the follicles, which then become sealed up, and no hair can possibly grow. In the ordinary falling of the hair, therefore, there is not, as the laity suppose, a complete loss of hair, but only a shedding of the external portion, as in animals at certain seasons, while the real root from which new hair may grow remains still in the follicle, ready to reproduce healthy hair, if only the nutritive and neurogenic powers are in proper condition.

All recognize that dematitis seborrheica is a most fertile cause for the falling of the hair, and in a study of this disease by Dr. Bulkley it was shown to be an important factor in over 63 per cent of cases of alopecia. But it was also shown that, although it was recognized as due to a miero-organism practically omnipresent, dermatitis seborrheica was constantly dependent upon general causes; which lowered the vitality of the tissues and rendered them suitable for the growth of the organism and thus enabled it to interfere with the nutrition of the hair.

Alopecia Areata. The constant observation of a spontaneous disappearance of the trouble, even repeatedly, would also militate against a parasite theory, while its occasional appearance or recurrence after each great nerve strain or shock would support the constitutional theory of the nature of the disease. The very great rebelliousness of alopecia areata to local treatment alone, and its yielding to complete and perfect internal measures, even without local aid, would also indicate a constitutional rather than a local etiology.—BULKLEY and JANEWAY, *Section on Cutaneous Medicine and Surgery, A. M. A.,* Chicago, Jnne, 1908.